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BY ORDER OF THE L' J'L'
OF BENGAL

REVIEW

OF

FOREST ADMINISTRATION

IN

BRITISH INDIA

BENGAL
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FOR THE YEAR

1885-86.

BY

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OFFICIATING INSPECTOR GENERAL OF FORESTS TO THE GOVERNMENT OF INDIA.

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CHAPTER I.

Area and Boundaries.

AREA.

General.

The following table exhibits the Forest Areas, the property of Government, which were partially or entirely under the management and control of the Forest Department on the 1st April 1886 :—

Province.		Forest area, in square miles.				Proportion of Forests to whole Area of Province.	Remarks.
Name.	Area, in square miles.	Reserved Forests.	Protected Forests.	Unclassed Forests.	Total.		
Bengal	150,589	4,972	2,219	4,033	11,224	7	
N.-W. Provinces and Oudh	106,080	3,390	73	144	3,607	3	
Punjab	106,772	1,068	321	2,709	4,098	4	
Central Provinces ...	84,445	19,434*	...	404	19,838	23	* 3,505 square miles are 1st class Reserves; the rest 2nd class.
Burma	87,220	4,471†	...	...	4,471	5	†422 square miles are *taungya* areas.
Assam	45,838	2,332	863	6,392	9,587	21	
Coorg	1,583	239	...	...	239	15	
Ajmere	2,711	144	...	...	144	5	
Baluchistan	...	...	...	8	8	...	
Total ...	585,238	36,050	3,476	13,690	53,216	9	
Berar	17,711	1,546	...	2,796	4,342	25	
Total Bengal Presidency	602,949	37,596	3,476	16,486	57,558	10	
Madras	141,028	2,737	7,060‡	1,126	10,923	8	‡ "Reserved *Lands*."
Bombay	124,300	9,505	4,427	...	13,932	11	
Grand Total ...	868,277	49,838	14,963	17,612	82,413	9	

2. It will be seen, from a comparison of the above table with the similar statement of the previous year, that the total area of forests under the control of the Forest Department has increased in the Provinces under the Government of India and in Berar by 89 square miles, and in the Madras Presidency by 1,903 square miles, and has decreased in the Bombay Presidency by 13 square miles. The following table shows the changes that have taken place in each

Province during the year in the constitution of forest property under Forest Departmental control:—

Province.	Area, in square miles.					
	Reserved Forests.		Protected Forests.		Total.	
	Increase.	Decrease.	Increase	Decrease.	Increase.	Decrease.
Bengal	90	...	...	79	11	...
North-Western Provinces and Oudh...	...	...	...	26	...	26
Punjab	53	..	10	...	63	...
Central Provinces ..	...	6	...	...	...	6
Burma	529	...	..	...	529	...
Assam	...	10	...	...		10
Coorg	1	...	...	...	1	...
Total ...	657	...	...	95	562	...
Berar	2	...	...	...	2	...
Total Bengal Presidency ...	659	...	...	95	564	...
Madras		242	2,176	...	1,934	...
Bombay	208	...	...	221	...	13
Grand Total ...	625	...	1,860		2,485	..

The changes in the areas of Reserved and Protected Forests, exhibited in the above table, are the results of Forest Settlements, and the consequent transfer of one class of forests to another.

3. The respective rights of Government and private persons in and over any forests are finally settled only by the constitution of such property as Reserves under the Forest Law in force.

The following table shows the proportions which the areas thus finally settled by the end of the year under report bear to the total area of each Province:—

Province.	Proportion of Reserved Forest Area.
	Per cent.
Bengal	3
North-Western Provinces and Oudh...	3
Punjab	1
Central Provinces	23
Burma	5
Assam	5
Coorg	15
Ajmere	5
Berar	9
Madras	2
Bombay	8

4. It seems obvious that the proportion shown to exist in the foregoing paragraph is, in most Provinces, by far too insignificant to supply the country at large with the forest produce needed. No doubt other sources are at present available, including, in some cases, more or less extensive private forests; but no reliance can be placed on their permanency, and even the State forests cannot be worked under pre-considerded systematic working-plans, which are the only means of insuring the largest possible outturn of forest produce, until the extent of the proprietary rights of the State, and that of adverse rights, has been finally settled. Under an irregular and more or less uncontrolled utilization of the forests, their yield is naturally less than their potential capability, and the general tax-payer suffers to a constantly progressive extent in consequence of an unrestricted and increasing use of the State forest property by people whom accident has placed in the vicinity thereof.

The indirect benefits derived from a regularly managed forest property become daily more evident in this country, which, at the same time, is not wanting in examples of the incalculable damage done by the careless and ruthless destruction of forests. In these circumstances, it would appear to be the duty of the Government to place, in the first instance, the forest property of the State, which in many Provinces can hardly be deemed sufficient, unaided, to provide for the direct or indirect requirements of the country, in a position allowing of the best management possible. The Forest Laws provide for this in their chapters treating of the Settlement of Forest Reserves, and the Government of India supports this policy; but the progress made in this respect in the year under report has hardly been sufficiently great to give hope of an early completion of this important question. All Local Governments have not as yet finally distinguished between Reserves, declared to be such under section 34 of the Forest Act, in which the rights of private persons have been sufficiently settled previous to such declaration, and those in which such rights still require a further settlement.

5. Some changes have taken place in the areas of Reserves formed in forests leased from Native Rulers. The following table exhibits the area of Reserves at the end of the year under report :—

Province.	From whom leased.	Area, in square miles.
North-Western Provinces and Oudh	Tehri-Garhwal Jaghirs	9
	Raja of Tehri-Garhwal	67
	Raja of Bashahr	2
Punjab	Raja of Bashahr	171
	Raja of Chamba	178
Total Bengal Presidency ...	.....	427
Madras	Raja of Sandur	62
	Raja of Nilambur	136
Grand Total ...	.....	625

Bengal.

6. The changes in the constitution of the areas under the administration of the Forest Department are exhibited as follow :—

Class of Forests.	Area, in square miles.				Proportion of Forests to whole Area of Province (150,589 square miles).
	At the commencement of the year.	Added.	Excluded.	At the close of the year.	
					Per cent.
Reserved	4,882	110	20	4,972	3
Protected	2,298	...	79	2,219	1
Unclassed	4,313	340	620	4,033	3
Total ...	11,493	450	719	11,224	7

The increase in the area of Reserved Forests falls almost entirely to the share of the Orissa Forest Division.

The area of Reserved Forests amounts to less than 44½ per cent. of the area of forests under the control of the Forest Department, and to only 3¼ per cent. of the whole area of the Province. The further constitution of Forest Reserves is, therefore, highly desirable and in consonance with the views expressed by the Government of India. The whole area at present under the management of the Forest Department amounts to only 7 per cent. of the Province, and the importance is evident of constituting any available Government waste land, suitable for the purpose, as Reserves, under the Forest Act, to be utilized as Fuel and Fodder Reserves.

North-Western Provinces and Oudh.

7. The changes that have taken place during the year under review in the areas of Government forest property are exhibited as follows :—

Class of Forests.	Circle.	At the commencement of the year.	Added.	Excluded.	At the close of the year.	Total for the Province.	Proportion of Forests to whole Area of Province 106,080 square miles).
		Sq miles.	Sq. miles.	Sq. miles.	Sq. miles.	Sq. miles.	Per cent.
Reserved ...	Central ..	1,471	...	...	1,471	3,468	3·27
	Oudh ...	1,194	1·54	1·54	1,194		
	School ...	764	39	...	803		
Protected ...	Central ...	99	...	26	73	73	·07
	Oudh ...	17	...	17	...		
	School ...	...	...	...	...		
Unclassed ...	Central ...	118	26	...	144	144	·13
	Oudh ...	...	...	...	...		
	School ...	...	...	...	...		
	Total ...	3,069	66·54	44·54	3,685	3,685	3·47

The principal changes which took place during the year were due to the transfer of Protected and Unclassed Forests to that of Reserves.

Almost all the forest lands in this Province have been constituted Reserves, but they were declared to be reserved under section 34 of the Forest Act, and the Government has still, in many instances, to decide whether a sufficient enquiry into the existence of adverse rights took place previous to such declaration, or whether a further Settlement is itself required. At present a certain number of villages in the vicinity of the Reserves is supplied with forest produce free, or at reduced rates, under executive orders. There is an uncertainty about this arrangement which is advantageous to neither the State nor the claimants to forest produce.

The question of forming Reserves in the *usar* and ravine portions of the Province for the supply of fuel and fodder has been under consideration from time to time. It has been proved, by various experiments, that the fodder supply of the country can be considerably increased, by a judicious planting up of these areas and a conservative use of the resources of these lands, which are now unproductive,

Punjab.

8. The following is an abstract of the progress made during the year under review in the constitution of Reserved and Protected Forests :—

Class of Forests.	At the commencement of the year.	Added	Excluded.	At the close of the year.	Percentage of Forests to whole Area of Province (106,772 square miles).
	Sq. miles.	Sq. miles.	Sq miles.	Sq. miles.	
Reserved	1,015	67	14	1,068	1
Protected	311	28	18	321	0·3
Unclassed	2,908	558	757	2,709	3
Total ...	4,234	653	789	4,098	4
Area of Reserved Forests formed under *Leases*.	376	1	28	349	0·3
Grand Total ...	4,610	654	817	4,447	4

The area of Reserves in the Punjab amounts to only 1 per cent. of the area of the Province. It is true that the plains of this Province are less favourable to the spontaneous growth of forest than most other parts of India ; but it is a question, which is worthy of earnest attention, and one which is believed to have come under the consideration of the Provincial authorities, whether irrigation could not be made to conduce to the increase of the forest area, which is so seriously below the percentage now universally acknowledged as requisite for the security of an agricultural country. The forests declared to be reserved under section 34 of the Act require no new settlement, as a sufficient enquiry into the proprietary and adverse rights had taken place previous to the declaration.

Central Provinces.

9. The changes in the areas under the Forest Department during the year under review were as follow :—

Class of Forests.	At the commencement of the year.	Added.	Excluded	At the close of the year	Proportion of Forests to whole Area of Province (84,445 sq. ms.).
	Sq. miles	Sq. miles.	Sq. miles.	Sq. miles.	Per cent.
1st class Reserves	3,505	...	...	3,505	4
2nd " "	15,935	1	7	15,929	19
Total Reserves ...	19,440	1	7	19,434	23
Unclassed Forests	404	...	...	404	...
Grand Total ...	19,844	1	7	19,838	23

With some inconsiderable exceptions, the whole of the State Forests in the Central Provinces have been constituted Reserves under the Act. They were declared to be reserved under section 34 of the Forest Act, but they are free of adverse rights, and no further settlement is required.

Burma.

10. The history of the year's reservation is shown in the following table :—

	Forest area.	Taungya area.	Total.
	Sq. ms.	Sq. ms.	Sq. ms.
Reserved on 1st April 1885	3,528	414	3,942
Added during the year by new reservations ...	550	...	550
	4,078	414	4,492
Excluded by disforestations	16	...	16
	4,062	414	4,476
Survey corrections	—13	+8	—5
Total on 1st March 1886 ...	4,049	422	4,471

The area of Reserves amounts as yet to only 5 per cent. of the total area of the Province, and will require to be largely increased before it is of sufficient extent to safeguard the future wants of the country. No present necessity exists for a Forest Settlement comprising at large all the more distant portions of the Arakan hills, or those forest tracts situated on the water-sheds of the Salween and its tributaries. The time may come when this, too, is advisable, but the existing method of selecting year by year the most valuable or exposed portion of the forests suffices for the present. Five hundred and thirty-four square miles were constituted Reserves during the year under report, and the reservation of tracts aggregating 500 square miles was under consideration when the year closed.

The areas of Reserves are distributed between the two Circles as follows :—

Circle.	Forest area.	Taungya area.	Total.
	Sq. ms.	Sq. ms.	Sq. ms.
Pegu	2,885	410	3,295
Tenasserim	1,164	12	1,176
Total ...	4,049	422	4,471

Assam.

11. No rights have been declared to exist in the forests which were declared Reserves under section 34 of the Act.

The changes which took place during the year under review in the constitution of the State forest property are exhibited in the following table :—

Class of Forests.	Area, in square miles.				Proportion of Forests to whole Area of Province (45,838 square miles).
	At the commencement of the year.	Added.	Excluded.	At the close of the year.	
					Per cent.
Reserved	2,342	19	29	2,339	5
Protected	863	...	...	863	2
Unclassed	6,390	85	83	6,392	14
Total ...	9,595	104	112	9,587	21

The area of Reserves amounts as yet to only 5 per cent. of the country. Under present circumstances this might be sufficient, but the time is rapidly approaching when the Province will be opened out by railways, and will be much more extensively cultivated than it is now. It is consequently essential that the area of Reserves should be largely increased in order to meet future requirements, even though it may not be possible to secure the areas without admitting adverse rights over the property.

Coorg.

12. The area of State Forests has been increased by one square mile.

Ajmere.

13. No further changes have taken place in the area of the Government Forest Reserves. This was expected; and as the area is considered insufficient to provide for the permanent requirements of the population, proposals were made to augment it by the constitution of Village Forests. During 1884-85 some 33,000 acres of waste land were taken up as Village Forests. It was the intention to place these forests under a special Regulation, and to administer them for the benefit and profit of the population. The Regulation has not as yet been adopted, and the attempts made to protect the area without rules which can be legally enforced have failed.

Baluchistan.

14. A Forest Law for Baluchistan, providing for the constitution of permanent forest estates, received the sanction of the Government of India during the year under report ; but as yet no forest areas have been reserved under its clauses, and the permanency of a supply of forest produce, which, as regards fuel at least, is a question of the greatest importance in Baluchistan, is no securer now than it was the day the province was annexed.

Andamans.

15. There are no Reserves formed as yet in the Andamans, and the forests have not as yet been sufficiently examined to decide the position and areas of permanent forest estates.

Berar.

16. The changes which took place during the year in the constitution of the forest areas under the control of the Forest Department are unimportant. Two square miles were added to the area of Reserved Forests, nine square miles of lands thrown up by cultivators were added to the Unclassed Forests, and 33 square miles of this latter class were given over for purposes of cultivation.

Madras.

17. The subjoined table indicates in detail the nature of the changes effected during the year in the areas and constitution of State Forests :—

Class of Forests.	Area on 31st March 1885.	Added during the year.	Excluded during the year.	Difference.	Area on 31st March 1886.	Source or cause of increase and decrease.
	Sq. ms.	Sq. ms.	Sq. ms.	Sq. ms.	Sq. ms	
I.—SOUTHERN CIRCLE.						
A.—Reserved Forests under Act V.	1,113	413	...	+413	1,526	306 square miles from B; 84 square miles from D; 23 square miles from F.
B.—Reserved Forests under previous rules.	1,040	3	736	—733	307	306 square miles to A; 430 square miles to D; 3 square miles from F.
C.—Leased Forests ...	...	...	...	...	...	...
D.—Reserved Lands ...	1,291	2,336	124	+2,212	3,503	430 square miles from B; 365 square miles from E; 1,541 square miles from F; 40 square miles to rectification of areas; 84 square miles to A.
E.—Other Forests ...	1,156	335	365	—30	1,126	335 square miles from F; 365 square miles to D.
F.—Unclassed Forests and Waste Lands.	...	...	...	...	...	335 square miles to E; 1,541 square miles to D; 3 square miles to B; 23 square miles to A.
Total ...	4,600	3,087	1,225	+1,862	6,462	
II.—NORTHERN CIRCLE.						
A.—Reserved Forests under Act V.	7	96	1	+95	102	17 square miles from B; 40 square miles from D; 1 square mile to rectification of area; 39 square miles from F.
B.—Reserved Forests under previous rules.	819	...	17	—17	802	17 square miles to A.
C.—Leased Forests ...	262	...	64	—64	198	64 square miles to rectification of area.
D.—Reserved Lands ...	3,593	4	40	—36	3,557	40 square miles to A; 4 square miles from F.
E.—Other Forests ...	...	...	...	...	...	...
F.—Unclassed Forests and Waste Lands.	...	...	...	...	...	39 square miles to A; 4 square miles to D.
Total ...	4,681	100	122	—22	4,659	
GRAND TOTAL ...	9,281	3,187	1,347	+1,840	11,121	

Owing to defective information in the Report of the Northern Circle, it is possible that the explanation given above of the additions and reductions in area for that Circle are not altogether correct.

The constitution of Forest Reserves is as yet in a very backward state, only 1,628 square miles having been declared Reserved Forests under the Forest Act at the end of the year under report, which amounts to only 1·15 per cent. of the whole area of the Presidency. The present programme submitted by the Board of Revenue contemplates the final reservation of 9,950 square miles. This represents only 7 per cent. of the total area of the Presidency, and can hardly be deemed a sufficient proportion, particularly in Madras, where climatic and other conditions would appear to demand a more liberal provision of woodland than is necessary in other parts of the Empire. The area of unoccupied forests in waste lands in that Presidency has been computed to aggregate upwards of 50,000 square miles, and it would be advisable to place all extensive tracts of waste-land and forests in every District, which are not required for purposes of cultivation—or which, in view of the insufficient area of pasture lands available outside the forests that have been set aside for the special purpose of supplying timber and fuel, it will be better policy to preserve for the grazing requirements of the people—under chapter II of the Forest Act, so that they can be permanently managed in a systematic, and therefore the most profitable, manner for the State, whether for the supply of timber, fuel, or fodder.

Bombay.

18. The changes which took place during the year under review in the constitution of State forest property under the control of the Forest Department are reported as—

Class of Forests.	Area, in square miles.				Proportion of Forests to whole area of Presidency (124,300 square miles).
	At the commencement of the year.	Added.	Excluded.	At the close of the year.	
					Per cent.
Reserved	9,297	410	202	9,505	8
Protected	4,648	170	391	4,427	3
Total ...	13,945	580	593	13,932	11

The progress which has been made in the reservation of State forest property in the Bombay Presidency is satisfactory. The Reserves, it is true, amount, as yet, to only 8 per cent. of the total area of the Presidency, but the area of Protected Forests at the disposal of the State permits of a further increase, and this point should not be lost sight of till the whole forest property of the State, amounting to 11 per cent. only of the total area of the Presidency, has been finally settled.

The distribution of State forest property amongst the different Districts of the Presidency is not so satisfactory as might be desired; and some of the high-lying lands to the east of the Ghâts, which, as regards the climatic benefit derivable from well conserved forests, would derive the greatest advantage, are exactly those in which the State possesses the smallest forest area.

At the close of the year under review, the Reserved and Protected Forests were distributed over the three Circles of the Presidency in the following proportion:—

Circle.	Reserved Forests.	Protected Forests.	Total.
	Sq. ms.	Sq. ms.	Sq. ms.
Northern	7,016	1,013	8,029
Southern	1,816	3,414	5,230
Sind	673	...	673
Total ...	9,505	4,427	13,932

BOUNDARIES.

19. The importance of distinct and permanent boundaries of the Government Forest Estates is universally acknowledged, and sufficient attention is being bestowed on this question in all parts of India.

CHAPTER II.

Surveys and Working-Plans.

SURVEYS.

Forest Survey Branch.

20. The chief operations of the Forest Survey Branch during the year were in Berar and in Bashahr (Punjab). Besides this, small parties were engaged on boundary surveys in Kumaun, Saharanpur, and Garhwal (North-Western Provinces). The area plane-tabled aggregated 607 square miles, exclusive of 72 linear miles (boundary surveys). Of the area topographically surveyed, 366 square miles were surveyed on the 4-inch scale and 241 square miles on the 2-inch scale. Preliminary triangulation was also sufficiently advanced for the detail surveys of the ensuing year, extending, as it did, over 849 square miles. The area plane-tabled was thus nearly 200 square miles in excess of that of the previous year. On the other hand, the cost was considerably less than hitherto, it being estimated at Rs. 69 per square mile for the 4-inch survey and Rs. 49 for the 2-inch survey, against Rs. 78 and Rs. 57 for the same class of work during the previous year. Altogether, the work done by the Forest Survey Branch during the year under review was very satisfactory.

Bengal.

21. In Bengal, boundary surveys were executed in most Districts; that conducted by the Forest Survey Branch in the Singbhum Sub-Division being the most important, covering as it did about 450 miles of inner and outer boundaries. The demarcation of the boundary separating the Angul Reserves from the bordering States is a matter requiring early attention, and it has been proposed that the party engaged on cadastral work in that locality could be employed for the purpose.

The extent of boundary surveyed is, except in the case of Singbhum, nowhere furnished.

Punjab.

22. The survey of the more important Bashahr forests was commenced by the Forest Survey Branch; 114 square miles were plane-tabled, and 401 square miles triangulated.

The Kalesar forest in the Phillour Division was surveyed on the 4-inch scale by the Forest Survey Branch, assisted by students from the Dehra Forest School.

In the Lahore Division a chain and compass survey was made of the Changa Manga Reserve, including plantation (area = 30 square miles).

In Chamba, 17 forests, aggregating 15 square miles, together with the lands in their immediate vicinity, were surveyed on the 2-inch scale by the Working-Plans Officer, assisted by two sub-surveyors from the Forest Survey Branch.

Burma.

23. In Burma, the area surveyed by the Topographical Survey Party was 199 square miles on the 4-inch scale and 131 square miles on the 2-inch scale, against 315 square miles on the former and 37 square miles on the latter scale during the previous year. The decrease in area, as well as the much higher cost of the work, is attributed to the very unsettled state of the country, which resulted in six weeks of the working season being lost. But for this circumstance, the proposed programme would, it is urged, have been exceeded.

Assam.

24. Leaving out of consideration numerous boundary and other minor survey operations, the principal work consisted in surveying the Dambu Reserve,

of about 7 square miles in extent. This was performed by the Divisional Officer, with the aid of Natives trained by himself. It is not stated what the scale of this detailed survey was; but the cost, amounting to Rs. 177 per square mile, was very considerable.

Berar.

25. In Berar, 162 square miles of the Melghat Forests were plane-tabled by the Forest Survey Branch, and 410 square miles were triangulated. The work is here not confined to the survey of forest property, but includes the cadastral survey of the whole country, which is in conformity with a special arrangement made with the local authorities, who pay for a portion of the survey from local revenues.

Madras

26. In the Northern Circle, arrangements were made with the Survey Department for a better supply of forest maps, and the Reserved and Village Forests of the Nilgiris were all carefully entered on the village maps available.

In the Southern Circle, work was confined to operations of minor importance. A detailed forecast of Forest Survey work was supplied to Government, and a scheme was drawn up in accordance with it by the Madras Survey Department; but the question was still before Government at the end of the year under report.

Bombay.

27. The survey of the Thana Collectorate, on the 4-inch scale, by the Topographical Survey of India was completed, and the survey of the Panch Mahals was continued. The survey of the forests in the Belgaum Division by the Southern Maratha Topographical Survey Party was undertaken towards the end of the year. This survey is on a scale of 8 inches.

WORKING-PLANS.

General.

28. The following working-plans were completed during the year :—

Serial Number.	Province.	District.	Forest.	Area of Working Circle, in square miles.	Description of Forest.
1	Punjab ...	Chamba ...	Upper-Ravi (leased) ...	111	Deodar and Pine high-forest.
2	" ...	" ...	Dalhousie	7	Do. do. with Oak.
3	" ...	Lahore ...	Shahdera-Jugian	2	Sissoo and Khair plantation.
4	" ...	" ...	Changa Manga	28	Do. do.
5	" ...	Umballa ...	Kalesar	18	Sal pole-forest.
6	Burma ...	Tharawaddy ...	Kon-Bilin	25	Teak high-forest.
7	" ...	" ...	Kadin-Bilin	80	Do. do.
8	" ...	" ...	Mokka-Bilin	38	Do. do.

The whole of the above were submitted for the professional opinion of the Inspector-General of Forests, and, with the exception of Plans Nos. 5, 6, 7, 8, were approved of by him, and were recommended for adoption to the Local Governments concerned.

Those Plans to which the Inspector-General took exception—for reasons of a technical nature—were returned to the Conservators for consideration of the objections raised by the Inspector-General. Of these, Nos. 6, 7, 8, after undergoing alterations, have since been sanctioned.

29. The following working-plans were in course of preparation during the year:—

Serial Number.	Province.	District.	Forest.	Kind of Forest.
1	Bengal ...	Darjeeling ...	Darjeeling	Pine, Oak, and miscellaneous high-forest.
2	" ...	" ...	Bamonpokri	Sal and miscellaneous high-forest.
3	N.-W. P. & Oudh.	Kumaun ...	Ranikhet	Pine, Oak, and miscellaneous high-forest.
4	" ...	" ...	Naini Tal	Ditto ditto.
5	" ...	" ...	Nindhaur	Sal and miscellaneous high-forest.
6	" ...	Garhwal ...	Ganges	Ditto ditto.
7	" ...	" ...	Tehri Garhwal (leased) ...	Deodar and Pine high-forest.
8	" ...	Dehra-Dun ...	Dehra-Dun	Sal and miscellaneous high and pole forests.
9	" ...	Kheri ...	Kheri	Ditto ditto.
10	Punjab ...	Chamba ...	Pangi	Deodar and Pine high-forest.
11	" ...	Rawalpindi ...	Murree and Kahuta... ...	Oak and Pine high-forest.
12	Coorg ...	Coorg ...	Nalkeri-Hutgut	Teak and miscellaneous high-forest.
13	Berar ...	Melghat ...	Raipur	Do. do. do.
14	Bombay ...	Thana ...	Virar	Do. do. do.
15	" ...	" ...	Karanjgaon	Do. do. do.

Of the above, Nos. 2, 3, 4, 5, 6, 12, 13 have, in the meantime, been completed, and were submitted for the Inspector-General's opinion. They, however, belong more appropriately to the year 1886-87, in the review of which they will again be referred to.

Burma.

30. In Burma, the absence of printed maps, and the unsettled state of the country generally, put a stop during the year to all field-work connected with the preparation of working-plans.

Assam.

31. A Working-Plan Division was organized for Assam during the year too late in the season to commence operations. The Dambu Reserve, already surveyed as it has been, will be the first taken in hand in that Province for the purpose.

Madras.

32. In the Northern Circle, there are said to be but few forests which are likely to require elaborate working-plans for many years to come. This circumstance is due to the fact of these forests having, for the most part, been denuded of their mature timber. But preliminary working-plans, directed to the improvement of the general condition of even such forests as these, must be none the less necessary; and it is satisfactory to learn that plans of this type are being started in several instances, as, for example, in the case of the Nilgiri sholas, in the Mandumalai and Sandur leased forests, and in the Gumsúr sal forests. Working-plans on a somewhat more advanced pattern had been previously in operation for the Nilgiri plantations, the Nellore casuarina plantations, and the Ballopalle evergreen Fuel Reserves.

In the Southern Circle, the unsatisfactory progress of demarcation and settlement, and the absence of trustworthy maps, are said to have hitherto militated against working-plans being constructed.

CHAPTER III.

Protection and Improvement.

(I)—PROTECTION.

General.

33. The sub-joined statement compares the results of protection for the present and the past year, as regards the number of offences taken cognizance of under the Forest Acts:—

Province.	Number of Cases taken into Court.		Number of Cases Compounded.		Total.		Percentage of Convictions to total number of Cases decided by the Courts.	
	1885-86.	1884-85.	1885-86.	1884-85.	1885-86.	1884-85.	1885-86.	1884-85.
Bengal	624	443	739	800	1,363	1,243	86	87
N.-W. P. and Oudh ...	211	230	152*	570	363	800	85	82
Punjab	1,114	1,074	1,070	831	2,184	1,905	79	75
Central Provinces	397	312	8,444	11,160	8,841	11,472	83	86
Burma	250	194	66	64	316	258	85	82
Assam	51	55	79	34	130	89	67	69
Coorg	22	8	†	...	22	8	61	100
Ajmere	53	47	70	48	123	95	92	90
Baluchistan	1	2	59	9	60	11	100	...
Andamans	1	12	...	...	1	12	100	33
Total ...	2,724	2,377	10,679	13,516	13,403	15,893	82	80
Berar	422	308	...	..	422	308	83	84
Total Bengal Presidency ...	3,146	2,685	10,679	13,516	13,825	16,201	82	81
Madras	2,002	1,764	412	52	2,414	1,816	61	70
Bombay	973	1,041	5,324	3,508	6,297	4,549	66	76
Grand Total ...	6,121	5,490	16,415	17,076	22,536	22,566	72	76

* In the Oudh and School Circles only. The figures (368) for the Central Circle relate to *persons*, not *cases*.

† Compensation, to the amount of Rs. 196-14-4, was recovered from various persons for damage done to sandal trees.

The total number of cases brought into Court was 10 per cent. in excess of the previous year, while the general average of convictions was reduced from 76 to 72 per cent. The number of cases compounded was also decreased by 4 per cent. The Provinces in which prosecutions in Court attained a marked increase were Coorg (64 per cent.), Bengal (29 per cent.), Berar (27 per cent.), Burma (22 per cent.), the Central Provinces (21 per cent.). In Coorg but little judgment would appear to have been exercised in bringing cases into Court, seeing that while the number of cases increased three-fold, the percentage of convictions decreased from 100 in the previous year to 61. In Bengal, the Central Provinces, Burma, and Berar, an excess in the number of prosecutions is set off by the very high average of convictions obtained. On the other hand, Bombay and Assam show

unsatisfactory results. In each the proportion of convictions has decreased to the low standard of 66 per cent. and 67 per cent., respectively, against 76 per cent. and 69 per cent. in the previous year.

The considerable decrease in the number of compounded cases in the Central Provinces is, viewed by the remarks contained in the Report of the previous year, very satisfactory. In Bombay, there has been an increase in the number of compounded cases, amounting to 34 per cent., and the total number of prosecutions (compounded and otherwise) continues to show a large increase from year to year. In the case of Madras, the number of compounded cases is only approximately correct; while for the North-Western Provinces and Oudh, it has only been possible to record results for Oudh and the School Circle.

Bengal.

34. In Bengal, the number of cases taken into Court during the year was 624, as compared with 443 in the previous year, the increase being in the Sundarbans and Orissa Divisions, where the cases were 133 and 232, respectively, against 26 and 185 in the year before. The proportion of convictions to prosecutions in Singhbhum and Chittagong was small. There was a large increase in the number of cases, principally in the Sundarbans; but the majority of the latter were petty cases against permit-holders for not returning permits.

North-Western Provinces and Oudh.

35. The number of cases taken into Court was smaller than in the year before, being 211 only, against 230; and the proportion of convictions was greater. Everything tends to show that the law is worked with great consideration for the people; but it is nowhere stated that the protection of the forests was efficient, except in the case of the School Circle, although, of course, without some confirmation of the kind, a mere statement of the number of prosecutions loses most of its value.

Punjab.

36. The number of cases increased during the year; but the percentage of convictions has also been raised from 75 per cent. to 79 per cent. The circumstance of some 40,000 head of cattle having been impounded shows that the people risk the inconvenience of a journey to the pound and the payment of pound fees, under the Cattle Trespass Act, rather than go to the trouble and cost of placing the animals under a herdsman when grazing near closed forests. There would seem to be no greater hardship in the people having to watch their cattle near forests than there is in their having to do so in the neighbourhood of fields; and it is a matter for consideration whether, in the present circumstances, the pound fees should not be raised under section 70 of the Forest Act.

Central Provinces.

37. There was a want of care in instituting prosecutions in the Bhandara District, and the percentage of convictions decreased in consequence from 86 to 83. This proportion, nevertheless, compares favourably with other Provinces, although it is unsatisfactory to know that there was an increase in the number of cases undetected. It is reported that the breaches of the Forest Law in 2nd class Reserves are much more numerous in proportion to those committed in the other class of Reserves. This was only to be expected, since the former are, as a rule, by their nearer proximity to cultivation, more exposed to injury and thefts. If teaches us the lesson that these 2nd class Reserves ought to be the first brought under a stricter system of management, and that in preference to more remote forests.

Burma.

38. In each of the two Circles there has been an increase in the number of cases taken into Court, but a corresponding increase also in the proportion of

convictions. Seeing the large area of the forests under protection, and the fact that a large percentage of the recorded offences relate to breaches of river rules, the number of cases is extraordinarily small. On the other hand, there is no record to show that the forests are efficiently guarded. A mere summary of cases is no proof one way or the other.

Assam.

39. In Assam, the populations living near the State forests are either supplied with their requirements free of charge, or else pay nominal rates for them. Under such circumstances, breaches of the forest rules must necessarily be small; there were only 51 during the year under review, against 55 in the year before. The prosecutions in Court have, nevertheless, not been so successful, the percentage of convictions having been 67, against 69 in the previous year. On the other hand, the number of compounded cases has more than doubled, and the fines levied on this account have increased five-fold.

Coorg.

40. The general protection of the Reserves is said to have been satisfactory, and it is reported that very few cases of illicit felling or damage to stock occurred. The number of prosecutions for breaches of the Forest Law was 22. They were all petty cases of theft, tresspass, mischief, &c. On the other hand, there was a very great increase in the number of cases over that of the previous year, and this is not satisfactory when it is borne in mind that convictions decreased from 100 per cent. to 61 per cent.

Ajmere.

41. In Ajmere, the total number of cases tried by Magistrates was six in excess of the previous year, the percentage of convictions reaching the very high average of 92. With the exception of three cases of injury to forests by fire, all the cases were of a petty nature. The number of cattle impounded was 3,674, or 526 less than in the previous year. It must here be mentioned that fodder was more plentiful than usual outside the protected tracts; also that many cattle are supposed, from the condition of the forests, to have evaded seizure.

Berar.

42. The number of cases brought into Court has increased considerably. On the other hand, a very high percentage of convictions has been obtained, which is sufficient proof of the law being equitably exercised. It is reported, in connection with the increase of offences, that the Tahsildars often inflict fines too light to serve as a deterrent. Sixty per cent. of the offences were for unauthorized felling and appropriation of wood and minor produce, almost all the others being for unauthorized grazing.

Madras.

43. The considerable apparent increase during the year in the number of cases tried in Court may be due, in part, to compounded cases having been mixed up, in the case of the Southern Circle, with those instituted before the Magistrates. Nevertheless, an increase in the number of cases of unauthorized felling of wood and minor produce is apparent almost in all Districts, and is doubtless indicative of increased vigilance on the part of the protective staff.

Bombay.

44. The increase in the number of unsuccessful prosecutions is not a satisfactory feature; and it is observed that the forests of the Thana District are said to be systematically plundered under cover of the dead-wood concession, which, it is noticed, was given on the special understanding that if abused it would have to be withdrawn.

(II)—PROTECTION FROM FIRE.

General.

45 The following table exhibits the areas under fire-protection, and the results of the year's operations compared with those of the previous year :—

Province.	Area, in square miles.				Proportion of Failures to area attempted.		Cost.				Year when Fire-Conservancy commenced.	Proportion of area under Fire-protection to total area of Reserves.	
	Attempted.		Protected.				Per square mile protected.		Per acre protected.				
	1885-86.	1884-85.	1885-86.	1884-85.	1885-86.	1884-85.	1885-86.	1884-85.	1885-86.	1884-85.	1884-85.	1885-86.	1884-85.
					Per cent	Per cent	Rs.	Rs.	Pies.	Pies.		Per cent	Per cent
Bengal	1,296	1,259	1,038	980	20	22	15	16	4	5	1872	26	26
N.-W. P. and Oudh ...	1,481	1,156	1,441	1,150	3	1	27	23	8	10	1869	41*	34*
Punjab	251	324	243	324	3	...	4	3	1	1	1871	18*	23*
Central Provinces ...	1,434	1,434	1,364	1,399	5	2	13	13	4	4	1864	7	7
Burma	296	292	238	275	20	6	60	56	18	17	1857	7	8†
Assam	234	210	227	199	3	5	39	52	12	16	1873	10	9
Coorg	199	194	179	176	10	9	15	18	4	5	1876	83	81
Ajmere	144	144	144	144	...	...	4	4	1	1	1874	100	100
Total ...	5,335	5,013	4,674	4,847	9	7	20	22	6	7	...	15	14
Berar	1,046	1,046	1,002	1,023	4	2	6	5	2	2	1879	68	68
Total Bengal Presy.	6,381	6,059	5,676	5,870	8	6	18	19	5	6	...	17	16
Madras	1,634	1,465	1,592	1,427	3	3	11	16	3	5	1867	86*	45*
Bombay	11,429	8,547	10,766	7,983	6	7	½	1/12	...	...	1874	88‡	92*
Grand Total ...	19,444	16,071	18,234	15,080	6	6	7	9	2	3	...	36	32

* Leased Forests included in area of "Reserves."
† *Taungya* areas not included in area of "Reserves."
‡ In Northern and Sind Circles, 95 per cent.; in Southern Circle (taking Reserved and Protected Forests into account, as done by the Conservator), 79 per cent.

In the Bengal Presidency, there was an increase in the area attempted to be protected of 322 square miles, in Madras of 169 square miles, and in Bombay of 2,882 square miles ; or a total increase of 3,373 square miles. In the Bengal Presidency, the principal increase took place in the North-Western Provinces and Oudh. The total area actually protected was in the proportion of 94 per cent. to that attempted, which is the same as that for the previous year, and may be considered a satisfactory result ; and the more so that the cost of the operations has been sensibly less in almost all the provinces, notably so in the North-Western Provinces and Oudh, Assam, and Coorg. The largest failures occurred in Bengal and Burma, while the North-Western Provinces and Oudh, Berar, and Madras show the largest areas successfully protected. The cost of protection varies exceedingly ; from two annas a square mile in Bombay to Rs. 60 in Burma. Special circumstances attaching to Forest Administration in Bombay, such as an exceptionally numerous establishment whose services are, in great part, available for purposes of fire-protection, and the necessity under which the people are of preserving the grass for their own use, render protection from fire in that Presidency an easier and a proportionately cheaper task than anywhere else in this country ; while the opposite extreme of scarce and highly paid labour, added to the circumstance of the Reserves being surrounded by unprotected forest, and by wildernesses of tall and dense grass subject to annual conflagration, make these works both costly and difficult in the case of Burma, Assam, Bengal, and parts of the North-Western Provinces and Oudh. The same causes operate to increase the areas under protection in Bombay, and to diminish them in provinces less exceptionally favoured, and in which protection has to march side by side with the means for making it effectual—means that are not always available. On the other hand, some of the provinces in the Bengal Presidency contain forests that are by their nature self-protecting, and, therefore, without need of special measures of fire-conservancy ; others, again, are not sufficiently valuable to pay the cost of fire-protection, or, being merely grazing-lands, do not

demand such protection. Thus in Bengal 67 per cent. of the Reserves are said to be self-protecting, and in Assam 70 per cent.

Bengal.

46. In Bengal, the results of the year's work were more satisfactory than in the year before, and the expenditure has been still further reduced. The greater part of the Singbhum and Angul Reserves was again burnt; but the failures in forests subject to long-standing measures of protection amounted to less than 2·5 per cent.

North-Western Provinces and Oudh.

47. In the North-Western Provinces and Oudh, the results of fire-protection were exceedingly good, better than anywhere else in the Bengal Presidency, excepting in the one matter of cost, which is probably still susceptible of considerable reduction. The area under protection was greatly increased, and, notwithstanding this, only 40 square miles were burnt out of a total of 1,481.

Punjab.

48. In the Punjab, the area attempted shows a decrease of 73 square miles, due to the exclusion from the list of such tracts as required no special measures of protection. On the other hand, protection was not so successful as in the year before, and the cost was greater. It is satisfactory to learn that fires in the Hazara Division are on the decrease—a circumstance attributed to the stringency of the law, and the exertions of Revenue and Police Officers. In the Mooltan Division, the opposite has been the case, and it is feared that this will continue until the Mooltan "raks" and "belas" are settled under the Forest Act.

Central Provinces.

49. In the Central Provinces, the results of fire-protection were, on the whole, good, but the area under protection was not added to, although 93 per cent. of the total area of Reserves continues to be, in this respect, uncared for. This is not satisfactory, even when allowance is made for the circumstance of 20 per cent. of the Reserves not requiring protection.

Burma.

50. In the Pegu Circle, the greater part of the very valuable Tharrawaddy Reserves were burnt, after a successful protection extending from 10 to 17 years. The fires were, in most instances, it is supposed, lighted by dacoits. Doubtless, these forests had been protected so long that the improvement, both in forest growth and reproduction, could not well disappear in a single conflagration; but, nevertheless, the damage done must have been of a very serious character. While only 10 square miles were added to the area under protection in this Circle, the cost of the operations rose very considerably, exceeding, as it did, by Rs. 15 per square mile, that of the previous year.

In the Tenasserim Circle, the results were much more favourable. But the area under protection was reduced there by 6½ square miles, with a view to improving, in the first instance, the means for protection in the case of one of the Reserves. In Burma, very large areas of forest are evergreen and self-protecting.

Assam.

51. In Assam, the very great improvement of the previous year has been maintained. The area under protection was increased by 24 square miles, and both failures and cost have been considerably reduced. It is estimated that 1,611 square miles of Reserves are so situated as to require no special measures of protection, from which we conclude that some 500 square miles of existing Reserves remain subject to annual fires—an area nearly double that under protection.

Coorg.

52. In Coorg, a slight reduction has taken place in the cost of fire-protection; but the results have otherwise been even more unfavourable than in the

year before, 10 per cent. of the area under protection having been burnt. This circumstance is attributed to the bad health of the establishment, but there was evidently also a want of co-operation. It is noticed with regret that, outside the Reserves, no forest is said to escape fire. The disappearance of small sholas by this agency indicates that the fires gain even on the (as yet) naturally protected forests, and that some means of preventing this state of things are imperatively necessary, the more so that the prosperity of the country is threatened by it.

Ajmere.

53. The success of fire-conservancy in Ajmere continues to be complete, and the whole area of Reserves is there under protection.

Berar.

54. Although less fortunate than usual, the results of fire-protection in Berar remain very satisfactory. Late and heavy winter rains rendered the clearing of fire-traces more expensive and difficult than hitherto.

Madras.

55. For Madras, the results of fire-protection were recorded for the official year only, and, as such, they possess but little interest for us, seeing that the Report of the previous year embraced all the critical months—*viz.*, from April to July. But it is satisfactory to learn that 169 square miles of Reserves were added to the area under protection. The latter was thus increased from 45 per cent. to 56 per cent. of the total area of existing Reserves. This increase was effected almost exclusively in the Southern Circle. On the other hand, it must not be lost sight that only some 15 per cent. of the State forests under the control of the Forest Department are fire-protected; and this is a very small proportion when it is borne in mind that in the Northern Circle alone some 20 per cent. of the area under protection is really more or less self-protecting. Again, of the total area of forests in the Presidency, it is believed that more than 5 per cent. receive special measures of protection.

Bombay.

56. In Bombay, the fire-protected area was increased by the very large addition of 2,882 square miles, and, according to the information given, only some 2,500 square miles of forest under the control of the Forest Department remain in which fire-protection is not attempted. The small cost and the extent of fire-protection in Bombay have been already explained. It was in the year under review practically demonstrated that strict fire-conservancy and closure against grazing in ordinary years has the great advantage of saving cattle from starvation in time of drought. It is to be regretted, of course, that such an extreme measure should have been necessary as to open to cattle forests in process of recuperation after long periods of ill-usage; but it was necessary in the present instance, and the State may be thankful that, owing to continued protection from fire and grazing, the fodder resources existed and that a calamity was averted in parts of the Bombay Presidency.

(III)—UTILIZATION.

57. The treatment of the State forest property with regard to its utilization, and the manner in which the demand for forest produce is met, is growing more systematic every year, and more in accordance with the sylvicultural demands of the forests. The main difficulty which opposes itself to a more rapid progress in this respect lies in the long established custom under which the forests and forest produce were used in the most wasteful manner, and without regard for the necessities of future generations. It is naturally a difficult and slow process to remove such custom by reasoning. When an export market and the requirements of Government need only be considered, the forests are worked on preconsidered and economical principles, and are no longer at the mercy of contractors and speculators.

58. In many instances, established rights interfere with the most economical use of the forests, which in such cases must be arranged so as to admit of the exercise of such rights. The manner in which the requirements of the surrounding population are as yet met is, however, more frequently the cause rendering an economic forest management impossible—a management under which the property would yield the largest amount of produce available for the people in the vicinity and the largest revenue to the State.

59. As regards the supply of timber and fuel, no difficulty is, as a rule, experienced, except near large centres of demand, and when concessions for dry wood and fuel have grown up uncontrolled with regard to the manner in which they are exercised. In most instances, however, even concessions of this kind can be brought into accord with the sylvicultural requirements of the forests, and they become purely financial questions in so far as the concessionists benefit at the cost of the general taxpayer.

60. The exercise of grazing and the lopping of trees for fodder or manure, or the removal of fallen leaves and surface soil, are, however, questions which deeply affect the management of the forest property from a sylvicultural, as well as from a financial, point of view. On the one hand, it must be recognized that it would be a waste of the resources of the State if the grass produced in the public forest property remained unutilized; but, on the other hand, the reproduction of the forests is rendered doubtful, patchy, and even impossible when grazing is permitted. It has been proved, moreover, that grazing is by far a more wasteful method of reaping the grass crop than cutting the grass; and Reserves carefully protected for a few years only in the Poona Collectorate have, under the latter method, yielded a revenue many times as large as in the former more wasteful way. It is evident, therefore, that, whenever possible, grass cutting should be substituted for grazing. There are, however, localities and conditions when this is not feasible, and when it is, therefore, necessary to arrange for the exercise of grazing in a manner least hurtful to the regeneration of forest areas. This can be done only by the exclusion, as far as possible, of all browsers, by the periodical closure of areas under reproduction, and by the levying of fees representing more or less nearly the actual market value of the produce supplied. The question presents great difficulties on account of the irregular and inferior condition of many of the forests, and the system of "jardinage" which was, under previous circumstances of utilization, the only natural method of exploitation, and which can only be changed in course of time—for the very reason that the whole of the forests cannot be closed at once and be fire-protected. As long and till the actual market value is not levied on grazing supplied from State forests, herds will exist which are not wanted, and which are, therefore, uncared for.

61. In spite of the difficulties which surround this question, considerable progress has been made in the regulation of grazing.

In *Bengal*, the Forest Reserves are, with a few exceptions, peculiarly free of obligations to provide pasture; and, when this is necessary, rules have been promulgated providing for the restrictions which it was found necessary to impose in order to secure a conservative management of the forests.

Considerable progress has also been made in this respect in *the North-Western Provinces and Oudh*, where large blocks of the more valuable forests have been closed against grazing. Extensive areas, especially in Oudh, are, however, still subject to uncontrolled grazing. They were once covered with forests of sissoo and catechu, of which the remnants are still in existence; at present they are grassy plains, year by year subjected to conflagration by the burning of the surplus supply of uneaten grass.

The area of closed forests in the *Punjab* comprises as yet but a small portion of the extensive State property in waste land and forests. A systematic closure of the "bár" lands in this province is of great importance, in order to

create Fodder Reserves for years of scarcity. It would also be an incalculable blessing to the rich lands in the districts at the foot of the Himalayas, which are now year by year inundated with new sand from the low hills underlying the main mountain range, if extensive closure took place in the Siwaliks; but, unfortunately, the State possessions within these tracts are insignificant.

The areas closed in the *Central Provinces* are extensive, but they are concentrated, and are frequently remote from the cultivated valleys. Much remains, therefore, to be done to provide for the periodical closures of blocks of forests in the 2nd-class Reserves, which are frequently situated nearer the local market, and have to bear the brunt of supplying it with fuel and small wood.

In *Burma* and in *Assam* the grazing question presents as yet no difficulties.

A legal settlement of the grazing rights claimed in the Government forests in *Coorg* is under consideration. This is satisfactory, as without this it is evidently impossible to regulate the grazing in such a manner as to permit of a sylvicultural and conservative treatment of the forests.

The grazing in the *Ajmere* Forest Reserves is managed with such regard to the sylvicultural requirements of the forests as the rights proved to exist will permit.

No arrangements with regard to the exercise of grazing have as yet been made in *Baluchistan*, but without this no reservation or conservative forest management on an adequate scale can be effected.

In *Berar*, the regulation of grazing in the Government forests seems to present no difficulty.

In *Madras*, it would appear that most of the State forests are still subject to almost unrestricted grazing, and that the sylvicultural requirements, in some cases even of forests created Reserves, and in which no grazing rights have been established, are considered to be of secondary importance Under such conditions, it is impossible to secure the permanency of the forest property.

In *Bombay*, also, concessions with regard to free grazing have been made, by executive orders, in Reserves where no rights were proved to exist; but, as a rule, such orders provide for a periodical closing of parts of the forests and otherwise limit the exercise of the concessions, and the question becomes thereby of purely financial interest, involving a loss of legitimate State revenue.

(IV)—NATURAL REPRODUCTION.

62. Natural reproduction must always constitute the mainstay for the maintenance and regeneration of the extensive forest areas of the Empire. Wherever fire-protection is successful, grazing controlled and restricted to areas not under regeneration, the exercise of rights and concessions properly regulated, and the treatment and exploitation of the forest based on scientific principles, there natural reproduction is, consistently with the prevailing natural conditions, reported to be progressing more or less favourably. The most important of these conditions is the quantity and distribution of the rainfall. Where rain is abundant, as in parts of Burma, Assam, Bengal, Bombay, and Coorg, seedlings come up so plentifully and grow up with such great vigour that, unless special care and precautions are taken, the weaker species either have no time to reproduce themselves or get crowded out and suppressed. On the other hand, in the arid parts of the continent, it is hopeless to expect the spontaneous restoration of forest areas that have been ruined by former wasteful use. In both these extreme cases, it is often necessary to have recourse to artificial means; in the former, in order to raise a more or less pure crop of the given valuable species, or to re-establish the forest growth where tall and invasive grasses have taken possession of the ground; in the latter, in order to get up a forest at all, a result that is often impossible of attainment without irrigation or some kind of watering. Again there are waste lands with inhospitable soil, which can be stocked only by means of sowing or planting. These cases excepted, in the larger portion of the remainder of our forest area mere protection and careful treatment will suffice to enable nature alone to re-establish and maintain a more or less full and valuable crop.

It is, of course, unnecessary to repeat facts that have already been recorded and described in former Reports, and in many cases there can be nothing new relative to them to note after the lapse of only twelve months. It must, nevertheless, be observed that the Reports of the Conservators are extremely meagre under the head of natural reproduction, and the remarks made thereon are of too general a character to give any definite idea of what is actually taking place.

(V)—ARTIFICIAL REPRODUCTION OF THE FORESTS.

General.

63. The area of Plantations and Cultural Operations is exhibited in the following table, which compares the results of the present and the previous year :—

PROVINCE.	AREA, IN ACRES.															
	At the commencement of the year.				Added during the year.				Excluded during the year.				Balance at the close of the year.			
	Regular Plantations	Cultural Operations.	Taungyas.	Total.	Regular Plantations	Cultural Operations.	Taungyas	Total.	Regular Plantations	Cultural Operations	Taungyas	Total.	Regular Plantations.	Cultural Operations.	Taungyas	Total.
Bengal	2,001	934	...	2,935	149	...	...	149	...	3	...	3	2,150	931	...	3,081
N.-W. Provinces and Oudh ...	2,905	1,303	...	4,208	604	1,162	...	1,766	6	...	...	6	3,503	2,465	...	5,968
Punjab	15,453	2,855	...	18,308	..	395	...	395	8	155	...	163	15,445	3,095	...	18,540
Central Provinces ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Burma	3,693	3,321	8,149	15,163	53	...	2,169	2,222	...	...	...	...	3,746	3,321	10,318	17,385
Assam	1,360	101	...	1,461	31	5	...	36	...	...	...	...	1,391	106	...	1,497
Coorg	949	38	...	987	60	...	...	60	7	...	...	7	1,002	38	...	1,040
Ajmere	383	18	...	401	33	4	...	37	...	...	...	...	416	22	...	438
Baluchistan	15	42	...	57	37	...	...	37	...	...	...	...	52	42	...	94
Andamans	25	...	...	25	18	...	...	18	...	...	...	...	43	...	...	43
Total ...	26,784	8,612	8,149	43,545	985	1,566	2,169	4,720	21	158	...	179	27,748	10,020	10,318	48,086
Berar	1,409	2,130	...	3,539	...	4,416	...	4,416	...	...	...	...	1,409	6,546	...	7,955
Total Bengal Presidency...	28,193	10,742	8,149	47,084	985	5,982	2,169	9,136	12	158	...	179	29,157	16,566	10,318	56,041
Madras	18,946	2,245	31,394*	52,585	755	1,043	19*	1,817	1,042	1,155	...	2,197	18,659	2,133	31,413*	52,205
Bombay	4,339	66,435	...	70,774	865	63,493	...	64,358	66	9,110	...	9,176	5,138	120,818	...	125,956
Grand Total ...	51,478	79,422	39,543	170,443	2,605	70,518	2,188	75,311	1,120	10,423	...	11,552	52,954	139,517	41,731	234,202

* These are "Topes."

Bengal.

64. The regular plantations were increased by 149 acres, by small extensions in Kurseong, Orissa, Darjeeling, and Chittagong. In Orissa the work appears to have been a failure, and this circumstance really reduces the area added during the year to 72 acres only.

North-Western Provinces and Oudh.

65. An addition of 450 acres was made to the promising sissu plantation at Sakhroi in Gorakhpur, which now aggregates 1,400 acres. This, and the thining out of *Pinus excelsa* in Lambatach and neighbouring forests of the School Circle, constitute the only important works of the year.

Punjab.

66. Owing to financial pressure, very little additional work was done during the year. The operations were, in fact, confined to small cultural extensions in Hazara, Chamba, Kulu, Bashahr, and Chenab, resulting in 395 acres being sown with deodar, pines, and various other species. On the other hand, the total area of cultural operations was reduced by as much as 155 acres on account of errors in calculation. At the same time, numerous blanks were sown over in the plantations of Chánga-Mánga and Kot-Lakhpat, while important nurseries were established in the Jhok plantation.

Central Provinces.

67. In the Central Provinces, natural reproduction is, when permitted to have its own way, so successful and abundant that artificial means of propagation are not often necessary, and then only on a very small scale.

Burma.

68. In Pegu, 53 acres of regular plantations and 1,705 acres of re-planted taungyas were added during the year. Of the latter, 1,445 acres were planted with pure teak and 260 acres with a mixture of teak and cutch. In Tenasserim, 464 acres of teak taungya were added. These taungya cultivations have been most successful in Pegu, and should everywhere be sufficiently so to form the nuclei of future teak forests.

Assam.

69. The principal work of extension, as regards regular plantations, took place in the chief rubber plantation of the province—namely, Charduár, in the Darrang District, to which 31 acres were added. Greater progress than this was prevented on account of the retrenchments ordered by Government.

Coorg.

70. In Coorg, 40 more acres were planted with teak and 20 with sandal. A reduction of area, aggregating seven acres, was effected on account of an erroneous calculation. The cost per acre of teak plantations has been Rs. 106-5-5 per acre, and this compares unfavourably with the cost of similar work in Burma, where labour is very expensive.

Ajmere.

71. Sowings are reported to have suffered a good deal from frost.

Andamans.

72. Padouk is just now the only important tree in the Andamans. The seedlings of this species are said to die out in their first year if the cover overhead is not removed. Experiments were made in the artificial reproduction of padouk, and these may result in conclusions of considerable importance.

Berar.

73. Four thousand four hundred and sixteen acres were sown broad-cast, the principal seed used being teak.

Madras.

74. The area of regular plantations remains practically the same as last year. An area of 1,042 acres was excluded, principally by transfer to Cultural Operations and to Reserves, and 755 acres were added, the net result being a decrease in the total area of 287 acres. Only some 500 acres were actually planted during the year, the balance being made up of previous omissions, rectifications of area, &c. The small progress made was due to financial pressure. Cultural operations were continued over an area of 1,043 acres, the most important work being the reclamation of sandy wastes in Tinnevelly, in which palmyra-nuts were put out, although with indifferent success.

Bombay.

75. In the Northern Circle alone, there are 2,116 Forest Guards, who are necessary for the protection of the forests, and the spare time of this establishment is probably employed in restocking considerable areas annually, and that without any extraneous assistance. The result is that in Bombay enormous areas are supplied with seed—that is, either sown broad-cast or in pits, or in ground otherwise prepared for its reception. These operations constitute the only important means of artificial propagation in Bombay. During the present year 65,000 acres were in this way sown over, of which 61,000 acres were in the Northern Circle alone.

(VI)—CREEPER-CUTTING, CLEARANCES, THINNINGS, ETC., ETC.

Bengal

76. Creepers were cut over a total area of 16 square miles only, although, in his previous year's Report, the Conservator had expressed hopes of being able to considerably extend this useful form of improvement.

North-Western Provinces and Oudh

77. In the Oudh Circle, creepers were cut over an area of 16 square miles in Bahraich, at a cost of Rs. 400. Very much still requires to be done, more especially in Bhira and Gorakhpur.

In the Central Circle, creepers were cut over 26 square miles of forest, at a cost of Rs. 564. Seeing the extent of the forests and the damage done, it would be well to extend these operations considerably.

In the School Circle, some 10 square miles were cleared of creepers at an average cost of Rs. 70 per square mile, which seems very considerable.

Punjab

78. In the Punjab, the Jagadhri plantation was thinned, and creepers were cut over two square miles of the Kalesar Forest. Weeding was also executed in Kulu over a small tract.

Central Provinces

79. It is noticed that considerable attention is paid to the important work of creeper-cutting; but few data are given wherewith to determine the extent of the operations. In Betul, 300,000 creepers were cut at a cost of Rs. 356, while good work was elsewhere done by the Forest Guards without cost. No thinnings were undertaken, and it is stated that there are but few places where they are necessary.

Burma

80. Works under this heading were mostly confined to plantations, which appear to have been weeded where necessary and cleared of creepers.

Assam

81. Very little was done in Assam, some five square miles only being cleared of creepers. But the climbers are said not to interfere much with the growth of the trees, except in certain sál forests.

Coorg

82. Clearings and creeper-cutting operations were executed over 267 acres only, distributed over seven blocks.

Madras

83. Very little information is given under this head from Madras, although it is reported that creeper-cutting, lopping, and pruning of plantations, and other improvement works, are had recourse to.

Bombay

84. Some of the improvement works coming under this head are carried out in Bombay with the help of the Forest Guards. The principal operations performed by Forest Guards on their rounds appear to be the extraction of prickly-pear and creepers. Thinnings were continued in the Kadra teak plantation (North-Kanara), and, in Kolaba, the Rajwadi teak plantation was similarly thinned out.

(VII)—COMMUNICATIONS AND BUILDINGS.

General

85. The outlay under this head during the year is compared as follows with that of the previous year :—

Province	Roads and Bridges.		Buildings		Other Works		Total	
	1885 86	1884-85	1885-86	1884 85	1885 86	1884 85	1885-86	1884-85
	Rs.	Rs	Rs	Rs.	Rs	Rs	Rs	Rs
Bengal	10,154	12 788	12 374	24 403	197	199	22,725	37,280
N -W. Provinces and Oudh	26,388	29,208	9,810	9 908	1,460	1,136	37,658	40 312
	11,843	20,370	13,960	17,146	1,182	3,378	26,985	40 894
	5,710	10,943	9,021	8,713	875	1,130	15 606	20,784
	43,941	60,581	32,791	35,767	3 517	5,644	80,249	1,01,992
Punjab	3,217	4,272	1,442	6,508	19	29	7,678	10,809
Central Provinces	1,749	2,934	2,113	1,845	312	1,103	4,174	5,882
Burma	456	2,278	4,961	6 360	3,056	5,120	8,473	13,758
	2		5,187	3,573	37		5,226	3,573
	458	2,278	10,148	9,933	3,093	5,120	13,699	17,331
Assam	18,837	12 953	9,053	10,873	460	241	28,350	24,067
Coorg	270	760	1 622	952			1,901	1 712
Ajmere	22	114	55	215	256	643	333	972
Baluchistan	46		30	192			76	192
Total	98 703	98,480	72,628	90,778	7,854	12,970	1,59 185	2,00,277
Berar	10,115	15 461	1 808	597	705	187	12,628	16,245
Forest Surveys (Berar)			597	398			597	398
Total Bengal Presidency	88,818	1,11 941	75,033	91,779	8 559	13,166	1,72 410	2,16 880
Madras	2,491	6,050	8,965	11,232	85		11,541	17,282
	6 988	12,717	14,071	17,213	159	543	21,218	30,473
	9 479	18 767	23,036	28,445	244	543	32,759	47 775
Bombay	783	1,066	763	2,279	130	605	1,676	3,950
	1,062	2,005	4,582	6,041	313	477	5,957	8,523
		2	90	760	600		690	762
	1,845	3,073	5,435	9,080	1,043	1,082	8,323	13,235
Grand Total	1,00 142	1,33,781	1 03,504	1,29,298	9,846	14 791	2 13,402	2,77,870

86. The totals for the Bengal Presidency during the previous five years have been as follows:—

					Rs.
1880-81	...	...	...	...	1,38,324
1881-82	...	...	...	...	1,88,027
1882-83	...	...	...	...	1,99,066
1883-84	...	...	...	...	1,84,998
1884-85	...	...	...	...	2,16,880

The above figures show an average of Rs. 1,85,459, or a difference of Rs. 13,049 in favour of the year under review, of which the expenditure has been Rs. 44,470 less than that of 1884-85. Including Madras and Bombay, there has been a reduction of expenditure amounting to Rs. 64,378.

Doubtless, in some provinces the work of communications and buildings is advancing towards completion—as in Oudh, for instance—and we may there look forward to a steady decrease in expenditure under this heading. Generally speaking, however, the considerable reduction observed in the outlay of the present year has been the direct result of financial pressure, and the call for economy. The consequence has been that only such works were undertaken during the year of which the execution was more or less urgently demanded. The greatest expenditure under this heading occurs in the North-Western Provinces and Oudh (Rs. 80,000); next come, in order of sequence, Madras (Rs. 33,000), Assam (Rs. 28,000), Bengal (Rs. 23,000), Burma (Rs. 14,000), Berar (Rs. 13,000), Bombay (Rs 8,000), Punjab (Rs. 8,000), Central Provinces (Rs. 4,000), Coorg (Rs. 2,000), Ajmere (Rs. 300).

The proportion of cost, and the necessity for works under this heading, will vary according to the accessibility of the forests and the distance of the markets. In these respects, the Himalayan regions are, of course, the most unfavourably situated, excepting always the Punjab, with its numerous large and navigable rivers. On the other hand, it must not be lost sight of that, both as regards necessary roads and buildings for the convenience and well-being of their Forest Officers, the North-Western Provinces and Oudh are far in advance of all the other provinces, and this is notably the case in Oudh, where the works have almost attained completion. Elsewhere, as in Bombay and the Central Provinces, the comparative unimportance of the annual expenditure on communications and buildings, although principally due to the greater accessibility of the forests and the smaller requirements in connection with these works, is unfortunately to some extent not warranted by circumstances, and a larger annual outlay would then appear to be called for.

Bengal

87. The principal work was done in Kurseong, Hazaribagh, and Singbhum. On roads were expended Rs. 10,154, against Rs. 12,588 in the previous year; and Rs. 12,374 on buildings, against Rs. 24,493 in 1884-85.

North-Western Provinces and Oudh

88. There was a saving of Rs. 21,743 on the previous year, and, although this was principally effected for financial reasons already referred to, the advanced state of communications everywhere in these provinces is such as to give hopes of a steady future reduction of expenditure.

Central Provinces.

89. There can be no doubt that many of the best forests in the Central Provinces are underworked in the absence of proper channels of communication. It is true that the expenditure of the year was curtailed to the utmost by order of Government; still that of previous years has been out of proportion to the requirements of the case.

Assam

90. The work on the important Dambu cart-road was proceeded with: it opens out one of the richest forest tracts in the Garo Hills. In Assam, the State forests have to compete with difficulties in the way of demand, and it is most necessary to cheapen the means of transport.

Berar.

91. The progress made in opening out the Melghât Forests by a system of excellent roads is most satisfactory.

Bombay

92. In Bombay, very much could be done towards opening out the more distant forests; and it is satisfactory to see that this subject has not passed unnoticed by the Civil authorities. The mere fact of fuel having to be imported into Bombay from Sind would seem to show that the subject of communication does not receive all the attention which it deserves.

(VIII)—DEMARCATION AND IMPROVEMENT OF FORESTS.

93. The expenditure during the year under these heads was as follows :—

Province.	Demarcation		Compensation for Land and Rights		Surveys and Working-Plans		Plantations		Protection from Fire		Other works		Total	
	1885-86.	1884-85	1885-86	1884-85	1885-86	1884-85	1885-86	1884-85	1885-86	1884-85	1885-86	1884-85	1885-86	1884-85
	Rs	Rs	Rs	Rs	Rs	Rs	Rs	Rs	Rs	Rs	Rs	Rs	Rs	Rs
Bengal ..	9,346	10,909	1,991	40	1,466	1,722	7,577	10,500	14,871	15,901	925	1,280	36,176	39,752
N.-W. P. & Oudh	3,123	1,092	..	.	1,407	2,692	2,797	3,557	10,785	16,016	498	1,712	24,610	25,909
	3,453	4,309	84	21	1,053		5,353	6,164	10,825	11,197	4,328	9,138	25,046	30,823
	979	2,001	300	750	2,665	2,465	3,425	4,139	7,878	10,232	2,534	2,534	17,781	22,181
	7,555	7,396	334	771	5,125	5,157	11,575	13,860	35,488	38,843	7,360	13,384	67,437	78,913
Punjab	28,776	8,306	593	5,241	1,864	1,962	30,080	49,144	1,186	926	2,371	2,011	64,870	67,660
Central Provs	11,825	10,480	61	60,040	1,240	1,538	247	406	18,000	17,585	2,760	3,730	34,142	93,779
Burma	4,212	4,284	1,878	277	5,140	8,081	27,272	29,075	11,114	11,342	328	421	49,951	53,483
	1,071	357		60	96	73	3,754	3,784	4,941	4,377	86	83	9,948	7,734
	5,283	4,641	1,878	337	5,240	8,154	31,026	32,859	16,055	15,719	412	507	59,899	62,217
Assam	9,018	8,402	950	525	6,834	7,803	6,490	8,371	8,846	9,930	7,955	7,963	39,502	43,094
Coorg	1,011	1,137			2,988	1,895	6,240	10,773	2,047	3,185	54	38	12,990	23,028
Ajmere	50	54		.		..	1,059	1,404	213	604	1,146	1,059	2,468	3,121
Baluchistan	408	3			10		1,456	920			169	91	2,052	414
For Sur (Impl.)			..	...	3,085	2,110							3,085	2,110
Total ..	73,472	50,908	4,857	66,954	12,926	30,341	95,759	1,33,037	97,356	1,02,195	23,152	30,063	3,22,621	4,14,098
Berar	231	674	123	1,059			1,520	1,788	5,840	4,697	25	381	7,739	8,599
Forest Survey (Berar)					6,463	5,018			.		.		6,463	5,018
Total Bengal Presidency	73,503	51,582	6,930	68,013	34,338	35,359	97,279	1,35,425	1,03,196	1,06,892	23,177	30,444	1,36,823	1,27,715
Madras ..	13,060	11,971	1,505	2,306	30	36	24,816	29,726	10,420	9,653	2,242	1,715	52,082	55,407
	9,728	11,092	1,081	9,050	1,068	1,249	38,428	40,697	15,047	9,202	23,060	20,591	88,412	91,971
	22,788	23,063	2,586	11,356	1,107	1,285	63,244	70,423	25,467	18,855	25,302	22,306	1,40,494	1,47,378
Bombay ..	30,208	1,694	15,030	30,984	2,335	4,430	6,186	6,850	1,457	973	1,577	1,72,752	65,802	2,26,683
	11,136	2,235	.	123	191	4,643	7,122	7,199	1,651	2,269	223	27,727	20,323	44,196
	4,425	2,174		69	2,977	6,314	4,917	4,367		299	3,270	10,148	15,389	23,371
	54,769	6,103	15,030	40,176	5,503	15,387	18,225	18,416	3,108	3,541	5,070	2,10,627	1,01,714	2,94,250
Grand Total ..	1,15,060	80,748	22,955	1,19,545	40,948	52,031	1,78,748	2,24,264	1,31,771	1,29,378	53,549	2,63,377	5,79,031	8,69,343

94. The expenditure on demarcation and improvement of forests in the Bengal Presidency during the past five years has been as follows :—

					Rs.
1881-82	...	...	...	...	3,22,449
1882-83	...	...	...	...	3,27,704
1883-84	...	...	...	...	3,53,629
1884-85	...	...	...	...	4,27,715
1885-86	...	...		...	3,36,823
Average	...	...	...	...	3,53,664

CHAPTER IV.

Working and Yield.

General

95. The total outturn in material obtained each year from our Indian Forests is, both as regards its quantity and value, exceedingly difficult to determine—at least under existing conditions of administration and management. We have certain information, it is true, in regard to that portion of the yield which contributes to the revenues of the Department; but this constitutes only a fraction of the annual drain upon our forest resources, subserving as these do, almost everywhere, to an immense demand on the part of bordering populations, who are permitted to supply themselves with their requirements without any payment in return, or on payment of rates very much below those obtaining in the neighbouring markets. An endeavour which was made this year to secure some reliable data in connection with the forest produce received by the people free of charge, and the diminution in revenue incurred by the Department on this account, as on that of having to provide extensive demands at rates either very low, or altogether nominal in amount, has not proved successful. And yet, until in a position to supply this information, we can form but a very imperfect idea of the part played by the State forests in the national wealth, of their usefulness, of their necessity; since we have no sufficient evidence to show of that which is given away to the people, of the extent to which the people are dependent on the Government forests, on their permanency, and on their good management Take the single district of Bahraich in Oudh as an instance. Some eighty thousand persons here obtain, free, all their timber, all their firewood, and all forest produce necessary to them, and graze their cattle at half the ordinary rates. Throughout India the agricultural populations living for considerable distances near the State forests enjoy some similar concessions from Government. In times of scarcity, Reserved Forests protected at great expense, and regenerated with a growth no longer burnt, nor subject to the destroying agency of unrestricted felling, lopping, and grazing, have been frequently opened to the starving cattle, whereby much loss has been averted from the people, who, in return, have had to pay nothing, or something very trifling, for the succour thus timely afforded them. The beneficial influences of Forest Conservancy, as indicated in the use and value of the State forests to the people, can hence hardly be appreciated from a mere consideration of the growing revenues of the Department; since, side by side with this increase in the demand on the part of the paying portion of the community, exists the increasingly heavy drain of the masses who contribute little or nothing in return. And yet, as we have observed, the former class of outturn has alone, up to the present, been recorded by Conservators with any approach to accuracy; and this is, in part, accounted for by the fact that where, as is often the case, the whole population bordering on the forests has permission to supply itself with every kind of forest produce that it may require for purely household purposes, the protective and executive Forest Establishments are then unequal to the task of exercising such strict control over exports by these people, at least without causing grave inconvenience to the consumers, as would result in a proper record being kept of the outturn from this source. Of course this circumstance applies most strongly to a daily necessary such as fire-wood, which constitutes the principal requirement of the masses, and is generally taken out by them in small quantities, most often in headloads, according as it is wanted for use. Still, even difficulties such as these should give way to an improved system of control and management, such as is indicated in a localization of the supply areas, and a provision that each class of produce shall be collected and removed at fixed periods only, and in fixed quantities, according to the requirements, not of each individual, but of each village unit. Generally speaking, therefore, there should be no insurmountable difficulty in the issue of such annual returns by Conservators as will furnish a correct idea of the total outturn from State forests in respect of produce unpaid for, or paid for at rates below those obtaining in the market.

Bengal.

96. The outturn of the several classes of forests, arranged according to the agency employed for the extraction of produce, is as follows :—

	Outturn, in cubic feet.			Bamboos.
	Timber.	Fuel.	Total of Timber and Fuel	No.
Reserved Forests.				
By Government Agency ...	81,841	160,298	242,139	998,903
„ Purchasers ...	5,959,663	13,223,598	19,183,261	2,891,369
Free Grants ...	8,120	175	8,295	...
Total Reserved Forests ...	6,019,624	13,384,071	19,433,695	3,893,272
Protected and Unclassed Forests.				
By Government Agency ...	5,524	..	5,524	13,932
„ Purchasers ...	529,072	5,375,075	5,904,147	20,463,940
Free Grants	1,296	...	1,296	14,041
Total Protected and Unclassed Forests.	535,892	5,375,075	5,910,967	20,491,913
Grand Total in 1885-86 ...	6,585,516	18,759,146	25,344,662	24,385,185
„ „ 1884-85 ...	5,651,481	16,319,108	22,003,889	21,710,126
Increase in 1885-86 ..	931,035	2,409,738	3,340,773	2,675,059

As compared with the previous year, the outturn in timber and fuel, as well as in bamboos, has largely increased. The increase in the outturn of timber and fuel is more than accounted for in the returns of the Sundarbans Division. The average outturn of wood per square mile, as compared with the results of the previous year, is as follows :—

Class of Forest.	Area, in square miles.	Total outturn of Wood, in cubic feet	Outturn in cubic feet per square mile
Reserved Forests	4,972	19,433,695	3,909
Protected and Unclassed Forests	6,252	5,910,967	945
In 1885-86	11,221	25,344,662	2,258
„ 1884-85	11,493	22,003,889	1,915
Increase or decrease in 1885-86 ...	—269	+3,340,773	+343

The increase in the outturn of bamboos is accounted for in the Palamow Sub-Division and in the Chittagong District Forests.

The outturn of minor forest produce was :—

	Removed by Purchasers.			Free Grants.		
	Maunds.		Tons.	Maunds.		Tons.
From Reserved Forests ...	3,632,177	or	132,960	1,443	or	50
„ Protected and Unclassed Forests ...	1,578,832	„	57,800	...	„	...
Total ...	5,211,009	or	190,760	1,443	or	50

The chief items exploited were Golpatta (*Phœnix paludosa*), thatching material, laterite, shells, Nal (*Bambusa arundinacea*), Hintal (*Phœnix paludosa*), canes, wax and honey, and Chut, and the Sundarbans Division produced upwards of three-fourths of all the minor forest produce extracted.

North-Western Provinces and Oudh.

97. According to the statements submitted, the fellings of the year yielded the following material :—

Circle.	Selection Fellings.			Thinnings.			Clearances.			Grand Total.		
	Timber.	Firewood.	Total.	Timber.	Firewood.	Total.	Timber.	Firewood.	Total.	Timber.	Firewood.	Total.
	Cub. ft.	Cub. ft.	Cub. ft.	Cub. ft.	Cub. ft.	Cub. ft.	Cub. ft.	Cub. ft.	Cub. ft.	Cub. ft.	Cub. ft.	Cub. ft.
Central ...	398,438	189,926	588,364	31,575	10,390	41,965	258,198	933,761	1,191,959	688,211	1,134,077	1,822,288
Oudh ...	682,436	58,760	741,196	98,878	648,807	747,685	3,127,436	1,548,663	4,676,099	*3,908,750	*2,256,230	*6,164,980
School ...	438,339	107,220	545,559	125,890	40,344	366,234	58,790	390,647	449,472	623,019	738,211	1,361,230
Total ...	1,519,213	355,906	1,875,119	256,343	899,541	1,155,884	3,444,424	2,873,071	6,317,495	5,219,980	4,128,518	9,348,498

The total yield is 3,400,000 cubic feet in excess of the previous year. This large outturn is due to the extensive sleeper operations in Oudh which were considered necessary to meet a sudden demand, were justified by reserves of growing stock resulting from former short fellings, and were unobjectionable with regard to the sylvicultural conditions of the forests. The proportion between the yield in timber and firewood is 5 to 4.

The following table shows the extent to which the several agencies were employed in the extraction of timber and firewood :—

Circle.	By Departmental Agency.			By Purchasers.			By Right-holders.			Free Grants.			Grand Total.		
	Timber.	Firewood.	Total.	Timber.	Firewood.	Total.	Timber.	Firewood.	Total.	Timber	Firewood.	Total.	Timber.	Firewood.	Total.
	Cub. ft.	Cub. ft.	Cub. ft.	Cub. ft.	Cub. ft.	Cub. ft.	Cub. ft	Cub. ft.	Cub. ft	Cub. ft	Cub. ft.	Cub. ft.	Cub. ft.	Cub. ft.	Cub. ft.
Central	81,737	209,832	291,569	507,110	806,845	1,313,955	67,869	103,892	191,761	11,495	13,508	25,003	688,211	1,134,077	1,822,288
Oudh...	1,117,127	474,110	1,591,237	378,006	1,294,712	1,672,718	20,000	...	20,000	2,394,617	485,408	2,880,025	*3,909,750	*2,254,230	*6,163,980
School	151,896	252,404	404,300	362,198	473,807	836,005	...	13,000	13,000	108,925	...	108,925	623,019	738,211	1,361,230
Total ...	1,350,760	936,346	2,287,106	1,247,314	2,575,364	3,822,678	107,869	115,892	223,761	2,515,037	498,916	3,013,953	5,220,980	4,126,518	9,347,498

* The difference between these sets of figures cannot be reconciled from the Report.

The large quantity of wood removed under free grants has attracted the attention of the Governor-General in Council. According to the statements submitted, the timber thus extracted during the year under review, which was one of considerable departmental activity in regard to timber extraction, amounts in cubical contents to nearly half of the whole timber yield, and to upwards of 12 per cent. of the fuel produced. It is understood that, the material thus granted is of much less value than that extracted by Government, or by purchasers on payment; but, nevertheless, the question seems to be of sufficient financial importance to deserve careful consideration on the part of the Local Government.

The income from minor forest produce amounted, according to the statements submitted, to Rs. 2,97,149, which was almost entirely realized from purchasers. Only Rs. 11,881 worth of minor forest produce was granted free.

It was remarked, in the previous year's review, that the method of forest exploitation practised in the Garhwal and Kumaun Divisions of the Central Circle was that known as the "Kham-Tehsil" system, and it was pointed out that this system could hardly reconcile itself to the requirements of a careful, sylvicultural, and economical method of working the forests. It has, however, since transpired, from an excellent Note by Mr. Bagshawe on the administration and management of these valuable Sub-Himalayan Forests, that while the name of the old system of working had been retained, that now in practice has been divested of most of what was objectionable under the so-called "Kham-Tehsil" system. In these circumstances, it is satisfactory to learn that the name itself, misleading as it was, has been abolished, and that the new order of things is indicated by the more appropriate term of "the Revenue-Depôt and Permit System." The chief improvement on the original system consists in the previous selection and marking of all green trees of important species destined to be felled, and the obligation on all exporters to provide themselves, in the first instance, with permits before commencing operations in the forest.

Punjab.

98. The following trees were felled by Government agency :—

Description.	Number.
Deodar	6,144
Boxwood	1,130
Other trees	266
Total in 1885-86 ...	7,540
" " 1884-85 ...	4,617
Increase in 1885-86 ...	2,923

The outturn of timber, fuel, charcoal, and bamboos has been as follows :—

Description.	By Government agency.	By Purchasers.	Free grants.	Right-holders.	Total.
Timber (cubic feet)	1,029,912	446,926	236,016	188,480	1,901,334
Firewood (")	1,837,857	6,275,565	...	...	8,113,422
Charcoal (")	13,527	...	...	...	13,527
Total ...	2,881,296	6,722,491	236,016	188,480	10,028,283
Bamboos (number)	824,151	28,845	...	23,775	876,771

The timber removed by right-holders is stated to have amounted to 188,000 cubic feet, and 236,000 cubic feet were given away in free grants.

Central Provinces

99 The extraction of forest produce by departmental agency was reduced to a minimum, and only 182 sâl trees were felled, against 19,432 in the previous year This contraction of departmental operations, the Conservator explains, was necessary on account of the uncertainty prevailing in respect of the demand for timber. This remark, it is understood, refers only to large timber used for railways and other constructive works. But it seems evident that the amount of forest produce extracted from the Government Forests by purchasers and consumers has also fallen off as regards timber, firewood, charcoal, and bamboos; and, to judge from several references made by the Conservator, the reason for this decrease in the utilization of the Government Forests must evidently be looked for in the competition of more favourably situated Private Forests The decrease in the sale of timber and fuel to extractors and consumers has now been noticed for two successive years, and the causes of it should be ascertained, and if possible removed.

Burma

100. The following girdling operations took place during the year under review —

Circle	Teak			Other Trees, outside Reserves.	Total
	Inside Reserves	Outside Reserves	Total		
Pegu	1,706	13,870	15,576	300	15,876
Tenasserim . ..	1,930	368	2,298	250	2,548
Total in 1885-86 .	3,636	14,238	17,874	550	18,424
„ 1884-85 ..	3,785	14,361	18,146	6,009	24,155
Decrease in 1885 86 ...	149	123	272	5,459	5,731

The yield of the forests can be summarized as follows :—

	Outturn, in tons		
	Teak	Other kinds	Total
By Government Agency ..	32,073	1,341	36,414
By Purchasers and under Trade Permits	331	41,584	41,915
Under Free Permits .	437	866	1,303
By Lessees of Forests	2,603	381	2,983
Total in 1885-86 ...	35,443	47,172	82,615
„ 1884-85 ...	48,008	84,782	132,790
Decrease in 1885-86 ..	12,565	37,610	50,175

There has been a large decrease in the outturn of timber. The decrease in the outturn of teak, which is chiefly extracted by direct Government agency, was due to blocks in one of the more important floating streams, and to other causes resulting in the late arrival of timber. The small outturn of timber of other kinds was a natural consequence of the disturbed state of the country, which largely affected the extraction of such timber by purchasers and consumers.

The imports of foreign timber into British Burma, as exhibited in the following table, show a serious decrease, amounting to upwards of 20 per cent. :—

Year	Quantity, in tons		
	Pegu Circle	Tenasserim Circle.	Total
1885-86	73,346	117,099	190,445
1884-85	80,993	158,103	239,096
Decrease in 1885-86	7,647	41,004	48,651

The exports were as follows :—

Year.	From Moulmein.		From Rangoon.		Total		
	Tons	Value	Tons	Value	Tons	Value	Average value per ton.
		Rs		Rs		Rs	Rs.
1885-86	105,240	83,09,160	63,368	53,72,330	168,608	1,36,81,490	81 1
1884 85	95,849	85 79,117	52,128	48,39,664	147,977	1,34,18,781	90·7
Increase or decrease in 1885-86	+9,391	−2,69,957	+11,240	+5,32,666	+20,631	+2,62,709	−9 6

The small outturn of timber of other kinds was a natural consequence of the disturbed state of the country, which largely affected the extraction of such timber by purchasers and consumers.

Assam.

101. The outturn of the Assam forests in timber, fuel, and bamboos was as follows :—

Class of Forests	Timber (selection-fellings).	Fuel.	Bamboos.
	Cub. ft.	Cub. ft	No.
Reserved Forests.			
By Government Agency	1,476	...	...
„ Purchasers	349,078	17,754	565,224
Free Grants	20,152	10,000	1,700
Total ...	370,706	27,754	566,924
Protected Forests.			
By Government Agency	...	...	...
„ Purchasers	43,377	50	248,925
Free Grants	17,710	...	...
Total ...	61,087	50	248,925
Unclassed Forests.			
By Government Agency	1,872	...	...
„ Purchasers	343,151	82,759	182,973
Free Grants	422,158	309,103	1,406,562
Total ...	767,181	391,862	1,589,535
GRAND TOTAL IN 1885-86 ...	1,198,974	419,666	2,405,384
„ „ „ 1884-85 ...	802,949	84,581	818,166
Increase in 1885-86	396,025	335,085	1,587,218

The outturn by direct Government agency is insignificant. It is noticed that some 460,000 cubic feet of timber were removed under free grants, out of a total yield of 1,199,000 cubic feet; and that 319,000 cubic feet of fuel were similarly given away, out of a total of 420,000 cubic feet which the forests supplied; also 1,408,000 bamboos, out of 2,405,000. This shows that more than half of the yield of the State forests was surrendered free of charge.

The produce extracted under free grants was mostly obtained from District Forests, and it is doubtless the right policy to treat the inhabitants, especially of villages situated in or near the Government forests, with considerable liberality; but, at the same time, the fact must not be lost sight of that a permanent local market is of great importance to a sound system of Forest Administration, in view of the circumstance that a considerable portion of the revenue derivable from forest property has to be spent on its supervision, protection, and management. Financial success becomes impossible when by far the greater portion of the produce of a forest not only yields no revenue, but, on the contrary, involves considerable charges under supervision and control. These considerations would appear to furnish a strong argument in favour of extending the formation of Reserves more energetically than has been the case of late. In these Reserves, free grants should, in the absence of established rights, only be granted under exceptional circumstances and after careful consideration of each case.

As regards timber removed by purchasers, it is noticed that the extraction of sâl logs for export to Bengal has still further decreased; but, on the other hand, a considerable increase has taken place in the exploitation of timber used in the province, and the Conservator believes that there is now every prospect of a revival of the trade in sâl timber as well.

The outturn of minor forest produce is exhibited as follows:—

Class of Forests.	Rubber.	Canes.	Thatching Grass.
	Maunds.	Bundles.	Bundles.
Reserved Forests.			
By Government Agency	8	...	...
,, Purchasers	...	37,684	...
Free Grants	...	78	...
Total ...	8	37,762	...
Protected Forests.			
Nil.			
Unclassed Forests.			
By Government Agency	7	...	...
,, Purchasers	...	405,523	...
Free Grants	...	21,137	2,700
Total ...	7	426,660	2,700
Grand Total	15	464,422	2,700

The sale of Rubber Mahals realized Rs. 31,428. The imports of Rubber are recorded as 983 maunds and the exports as 6,658 maunds, showing that 5,675 maunds were collected locally. This represents a considerable decrease as compared with last year's work, when the local collections amounted to 7,290 maunds.

Coorg.

102. The number of trees felled in Reserves by Government agency compares with the operations of the previous year as follows:—

Year.	Teak	Other Trees	Total.
	No	No.	No.
1885-86	874	1,015	1,889
1884-85	658	843	1,501
Increase in 1885-86	216	172	388

The produce removed by purchasers from Reserved Forests, consisting mainly of poles, firewood, and bamboos, is exhibited as follows:—

Teak	32 trees
Poon, Irupoo, Honne, &c.	299 „
Miscellaneous	1,283 poles.
Firewood	3,165 cart-loads.
Bamboos	197,518

The summary of the produce disposed of from the Reserved Forests shows that Rs. 42,248 were realized therefrom, against Rs. 52,222 in the previous year, the possible yield being roughly estimated at about Rs. 1,00,000.

The number of trees removed from unreserved Government forests is unimportant, amounting to 67 only, and 500 bamboos.

From alienated lands 188 trees were sold.

The following is an abstract of the sandalwood operations of the last five years:—

Year	Quantity brought to depôts	Quantity sold.	Amount realized.	Average per ton.
	Tons	Tons	Rs	Rs.
1881-82	126¾	60¾	14,059	231
1882-83	117½	192¼	77,407	403
1883-84	74¼	36¼	10,908	301
1884-85	72¼	118¾	35,650	300
1885-86	80½	118½	27,954	236

The cost of collecting sandalwood was still further reduced from Rs. 28-11-6 to Rs. 25-6-3 per ton; but, as the Government carting establishment had been broken up, great difficulty was found in procuring the necessary carriage, and the collections are still far below those made in former years.

The income from cardamoms has decreased by Rs. 3,258, or 15·7 per cent., owing to a great fall in the price of that commodity. In future the cardamom malés will be sold on longer leases, extending over 21 years. The sale will, as formerly, be conducted by the Civil authorities, who will also be responsible for the collection of the revenue; but the protection and management of the malés will be placed entirely under the Forest Department.

Andamans.

103. As far as can be gathered from Mr. Ferrars' Report and statements, the following timber was girdled during the year:—1,213 padouk trees and 4,859 miscellaneous trees.

The balance of timber in the depôts at the beginning of the year is given as 1,255 logs, aggregating 394 tons. During the year, 6,332 logs, or 3,086 tons, were brought from the forests into depôts. Of these, 4,353 logs, or 1,951 tons, were made over, in the round, to local Departments, and 2,608 logs, containing 1,082 tons, were transferred to the Saw-mill, leaving a balance of 626 logs, or 447 tons, in depôts. Whether this includes the timber stored at Shoal Bay cannot be ascertained from the Report, nor even the proportion of padouk timber. Two hundred and twenty-five tons of converted timber were made over to local Departments from the Saw-mill account.

The timber exported amounted to 557 tons, of which 440 tons were padouk, and only 34 tons were sold locally.

No very clear view can be obtained from the Report regarding the success of the year's export operations. It seems clear, however, that it will not be possible to realize the high prices formerly obtained for small quantities, if larger shipments are placed in the market; but, at the same time, the cost of extraction is so small that a fair profit will remain even if the timber is sold at the rate realized for greenheart.

Berar.

104. The departmental fellings which took place in the Melghat, aggregating 642 trees, were more of the character of improvement-fellings, the exploitation consisting of the removal of badly-grown stock in order to produce a more healthy coppice. No other departmental operations took place, but the following table shows the outturn of timber and fuel removed by purchasers:—

Class of Forests.	Outturn, in cubic feet.		
	Timber.	Firewood and Charcoal.	Total.
State Reserves	9,672	43,456	53,128
District „	3,500	2,058	5,558
Unclassed Forests	267,606	267,509	535,115
Total in 1885-86 ...	280,778	313,023	593,801
„ 1884-85 ...	327,805	352,590	680,395
Decrease in 1885-86	47,027	39,567	86,594

The outturn of minor forest produce is exhibited as follows:—

Class of Forests.	Bamboos.	Grass.	Minor Produce.
	No.	Tons.	Tons.
State Reserves	1,421,684	6,425	60¾
District „	37,068	3	...
Unclassed Forests	1,256,549	2,213	5,144¾
Total in 1885-86 ...	2,715,301	8,641	5,205
„ 1884-85 ...	3,248,626	10,238	1,267
Increase or decrease in 1885-86	—533,325	—1,597	+3,938

It is observed that the farming out of the Naka stations has been proposed and approved of. This is a measure which does not seem commendable in itself, especially at a time when doubt has, on several occasions, been expressed by the Conservator regarding the effective control of the *nákas* by his Department. The full revenue obtainable will, under these circumstances, hardly be realized.

The amount realized as the value of grazing by cattle admitted into the forests was as follows:—

Class of Forests.	Cattle.	Grazing value.
	No.	Rs.
State Reserves	56,600	12,671
District „	680,117	55,672
Unclassed Forests	153,180	9,558
Total ...	889,897	77,901

Madras

105. No comparison of the yield and working of the year with that of previous years is made by either Conservator, and the annual timber returns of the Southern Circle are admittedly incorrect. In these circumstances, it is impossible to review with profit the operations of the year, the more so that the outturn in given in a variety of measures, such as cubic feet, tons, maunds, &c.

From the statements showing the quantity of produce granted free of payment in the Southern Circle, it appears that the forests not under the control of the Forest Department are, even under the present wasteful and unconservative treatment accorded to them, generally sufficient to meet the requirements of the people, without recourse to the State forests.

Bombay

106. The subject of the yield of the State forests is exhaustively dealt with in the Conservators' Reports, and discloses satisfactory results, both with regard to the yield of wood and that of minor forest produce; but so long as the considerable amount of produce extracted under privileges and concessions is not credited to the forests, the information regarding the annual yield must continue incomplete.

CHAPTER V.

Financial Results.

General.

107. The Receipts and Surplus of the various provinces during the year under review, arranged according to the total amount of Revenue, are as follows:—

No.	Provinces.	Revenue.	Surplus.	Deficit.	Proportion of Surplus to gross Revenue.
		Rs.	Rs.	Rs.	Per cent.
1	Bombay	33,66,286	15,26,825	...	45
2	Burma	20,23,859	8,72,907	...	43
3	North-Western Provinces and Oudh ...	14,61,495	4,86,936	...	33
4	Madras	11,98,650	2,60,678	...	22
5	Central Provinces	10,36,894	5,91,462	...	57
6	Punjab	8,50,419	1,74,936	...	21
7	Bengal	5,97,432	2,27,033	...	38
8	Berar	3,19,851	1,60,609	...	50
9	Assam	1,96,656	...	14,838	...
10	Coorg	89,386	23,696	...	27
11	Andamans	23,944	...	13,091	...
12	Baluchistan	14,962	...	887	...
13	Imperial	14,708	...	73,587	...
14	Ajmere	9,697	...	6,772	...
15	Forest Surveys (Berar)	631	...	42,309	..
16	Forest School	273	...	23,966	...
17	Forest Surveys (Imperial) ...	202	...	18,978	...
	Total ...	1,12,05,345	41,30,794	...	37

The gross Revenue rose during the year from 102 lakhs to 112 lakhs, which constitutes the highest figure yet attained to since the Department was first organized.

The Surplus Revenue for the last five years is shown in the following table from which it will be seen that the Surplus obtained during the present year was only slightly inferior to that of 1883-84, the largest hitherto made:—

Year.	British Territories.				Berar.	Grand Total.
	Bengal Presidency.	Madras.	Bombay.	Total.		
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1881-82	23,04,184	2,03,489	6,58,936	31,66,609	80,526	32,47,135
1882-83	26,42,642	2,61,090	8,11,583	37,15,315	1,36,960	38,52,275
1883-84	29,05,697	1,66,971	9,38,928	40,11,596	1,36,396	41,47,992
1884-85	17,86,464	2,70,411	9,96,119	30,52,994	1,10,666	31,63,660
1885-86	22,24,991	2,60,678	15,26,825	40,12,494	1,18,300	41,30,794

Bengal.

108. The following table shows the financial results of the year under review as compared with those of 1884-85 :—

Year	Receipts.	Charges.	Surplus.	Proportion of Surplus to gross Revenue.	Revenue per square mile of Forests	
					Gross.	Net.
	Rs	Rs.	Rs.	Per cent.	Rs.	Rs.
1885-86	5,97,432	3,70,399	2,27,033	38	53	20
1884-85	5,71,152	4,11,915	1,59,237	28	50	14
Increase or decrease in 1885-86	+26,280	—41,516	+67,796	+10	+3	+6

The Receipts have increased, as was anticipated ; and, consequent on a considerable reduction in the expenditure, the Surplus represents 38 per cent. of the gross Revenue, which is an advance of 10 per cent. over that of the previous year.

North-Western Provinces and Oudh.

109. The financial results of the year were as follow :—

Circle.	Receipts	Charges	Surplus		Proportion of Surplus to gross Revenue in 1885-86.
			1885 86	1884 85.	
	Rs	Rs	Rs.	Rs.	Per cent.
Central	4,43,133	2,64,479	1,78,654	2,30,585	40
Oudh	6,81,713	5,03,197	1,78,516	2,26 264	26
School	3,36,649	2,06,843	1,29,806	95,369	39
Total in 1885-86	14,61,495	9,74,519	4,86,976	...	33
Total in 1884-85 ...	15,72,319	10,20,101	5,52,218	...	35
Decrease in 1885-86	1,10,826	45,582	65,242	...	2

The Surplus has decreased since last year by Rs. 65,000. The fall in Revenue occurred in the Central and Oudh Circles. The School Circle, on the other hand, has shown for some years past a gradually, but steadily, increasing revenue, which seems to some extent due to the system of management.

Punjab.

110. The financial results compare with those of the previous year as follows :—

Year.	Receipts.	Charges.	Surplus.	Proportion of Surplus to gross Revenue.
	Rs.	Rs.	Rs.	Per cent.
1885-86	8,50,419	6,75,483	1,74,936	21
1884-85	7,49,352	5,58,070	1,91,282	26
Increase or decrease in 1885-86	+1,01,067	+1,17,413	—16,346	—5

The gross Receipts show an increase of Rs. 1,01,067; and if the Surplus is, nevertheless, Rs. 16,346 less than in the previous year, this is due to the fact that Rs. 31,000 were charged off on account of the Bakani slide, and Rs. 7,748 were expended on tramway plant for Changa Manga. Forest settlement and demarcation also demanded an outlay of Rs. 20,000 in excess of that in the previous year.

Central Provinces.

111. In spite of a decreased sale of timber and fuel, the financial results of the year's transactions, as exhibited in the following table, are satisfactory :—

Years.	Receipts.	Charges.	Surplus.	Proportion of Surplus to gross Revenue.
	Rs.	Rs.	Rs.	Per cent.
1885-86	10,36,894	4,45,432	5,91,462	57
1884-85	10,27,202	4,95,821	5,31,381	52
Increase or decrease in 1885-86 ...	+9,692	—50,389	+60,081	+5

The gross Revenue has risen by Rs. 9,692, the Surplus by Rs. 60,081, and the proportion of Surplus to gross Revenue by 5 per cent.

Burma.

112. The financial results of the year, as exhibited in the following table, show an increase of upwards of 3 lakhs of rupees in the gross Revenue, and of Rs. 3,64,000 in the Surplus :—

Circle	Receipts.	Charges.	Surplus.	Proportion of Surplus to gross Revenue.
	Rs.	Rs.	Rs.	Per cent
Pegu	15,51,616	8,32,438	7,22,178	46
Tenasserim	4,69,243	3,18,514	1,50,729	32
Total in 1885-86 ...	20,23,859	11,50,952	8,72,907	43
„ 1884-85 ...	16,70,982	12,12,233	4,58,748	27
Increase or decrease in 1885-86 ...	+3,52,877	—61,281	+4,14,159	+16

The prices of teak continued low, and the increase in revenue is entirely due to the sale of a larger quantity of teak timber belonging to Government, for there was also a serious falling off in the revenue derived from timber and minor forest produce extracted by consumers and purchasers.

Assam.

113. The financial results compare as follow with those of 1884-85 :—

Year.	Receipts.	Charges.	Deficit.
	Rs.	Rs.	Rs.
1885-86	1,96,656	2,11,494	14,838
1884-85	1,80,414	1,97,699	17,285
Increase or decrease in 1885-86 ...	+ 16,242	+ 13,795	—2,447

The Receipts have slightly increased, but the Charges are also higher, and the Deficit is only Rs. 2,447 less than in the previous year.

Coorg.

114. The financial results, as compared with those of the previous year, were as follows :—

Year.	Receipts.	Charges.	Surplus.	Proportion of Surplus to gross Revenue.
	Rs.	Rs.	Rs.	Per cent.
1885-86	89,386	65,690	23,696	27
1884-85	1,13,233	76,951	36,282	32
Decrease in 1885-86 ...	—23,847	—11,261	—12,586	—5

The Receipts have decreased by Rs. 23,847, owing chiefly to the fact that less timber and sandalwood were brought to depôt, and that of an inferior quality, and partly to less income derived from cardamoms, as already noticed. Till the arrangements for timber extraction have been permanently improved, the income from the Coorg forests must evidently remain fluctuating.

The expenditure of the year was also considerably reduced, but partly at the cost of important works, and the Surplus is still less than that of the previous year by Rs. 12,586.

Ajmere.

115. The financial results of the year under review were, compared with those of the previous year, as follows :—

Year.	Receipts.	Charges.	Deficit
	Rs.	Rs.	Rs.
1885-86	9,697	16,469	6,772
1884-85	10,456	16,316	5,860
Increase or decrease in 1885-86 ...	—759	+153	+912

There was a deficit of Rs. 6,772; but the value of forest produce supplied to villagers amounted, at a low estimate, to upwards of Rs. 60,000, and a considerable income from the forest growth cannot be expected for years.

Baluchistan

116. A satisfactory result of the year's administration is the large decrease that has taken place in the deficit. The financial results for the last three years compare as follow:—

Year.	Receipts.	Charges.	Deficit.
	Rs.	Rs.	Rs.
1883-84	4,752	16,911	12,159
1884-85	6,089	13,266	7,177
1885-86	14,962	15,799	837

Andamans

117. The financial results of the year are given as follows:—

	Cash.	Invoice.	Total.
	Rs.	Rs.	Rs.
Receipts	16,696	49,907	66,603
Charges	16,916	17,216	34,132
Surplus or Deficit in 1885-86	— 220	+ 32,691	+ 32,471
" " 1884-85	— 5,261	+ 26,366	+ 21,105
Difference in 1885-86	— 5,041	+ 6,325	+ 11,366

The timber supplied to local Departments has been invoiced at Rs. 49,907, and the cost of convict labour supplied for forest operations at Rs. 17,216; but, since the provisions of paragraph 161 of the Forest Department Code, referring to inter-departmental transfers, have not been followed in either case, the book entries cannot be recognised in the Financial Department.

Berar.

118. The financial results of the year's working were as follow :—

Class of Forests.	Receipts.	Charges.	Surplus	Deficit.	Proportion of Surplus to gross Revenue.
	Rs.	Rs.	Rs.	Rs.	Per cent.
State Reserves	54,331	62,470	...	8,139	...
District „	1,72,409	45,256	1,27,153	...	...
Unclassed Forests ...	93,111	51,516	41,595	...	...
Total in 1885-86 ...	3,19,851	1,59,242	1,60,609	...	50
„ 1884-85 ...	2,97,185	1,52,649	1,44,536	...	49
Increase in 1885-86 ...	22,666	6,593	16,073	...	1

The Reserves have yielded the main portion of the year's revenue, the net Surplus placed to their credit amounting to nearly Rs. 1,20,000. The serious falling off in the revenue realized from the Unclassed Forests has not been explained.

Madras.

119. The general financial results of the year are shown in the subjoined statement :—

Circle.	Receipts.	Charges.	Surplus.	Proportion of Surplus to gross Revenue.
	Rs.	Rs.	Rs.	Per cent.
Northern	5,46,282	4,01,817	1,44,465	26
Southern ...	6,52,368	5,36,155	1,16,213	18
Total 1885-86 ...	11,98,650	9,37,972	2,60,678	22
Total 1884-85 ...	11,66,916	8,96,505	2,70,411	23
Increase or decrease in 1885-86 ...	+31,734	+41,467	—9,733	—1

Bombay.

120. The financial results were as follows—

Circle.	Receipts	Charges.	Surplus.	Proportion of Surplus to gross Revenue.
	Rs.	Rs.	Rs.	Per cent.
Northern	10,37,297	6,63,640	3,73,657	36
Southern	17,92,115	7,73,161	10,18,954	57
Sind	5,36,874	4,02,660	1,34,214	25
Total in 1885-86 ...	33,66,286	18,39,461	15,26,825	45
„ 1884-85 ...	27,74,842	17,78,723	9,96,119	36
Increase in 1885-86 ...	5,91,444	60,738	5,30,706	9

This is the largest revenue that has ever been realized by the Bombay Forest Department, and the proportion of Surplus to Receipts has risen from 36 to 45 or by 9 per cent. This is eminently satisfactory ; but, as the large increase is to some extent due to temporary causes, a permanency of this year's high income and net profits cannot be hoped for, at least for the present.

CHAPTER VI.

Exports of Forest Produce.

121. The following table shows the quantities of Forest Produce exported from India during the year:—

Articles.	Quantity in tons of 20 cwt.: in the case of Teak, 50 cubic feet.		Valuation at port of shipment in 1885-86.	
	Average of 5 years, 1880-81 to 1884-85.	In 1885-86.	Total.	Per ton.
			Rs.	Rs.
Caoutchouc	483	328	6,56,204	2,001
Shell-lac	4,502	5,606	43,96,417	784
Lac-dye	164	89	31,630	355
Cardamoms	96	134	5,60,012	4,179
Sandalwood, Ebony, and other ornamental Woods ...	...	(Not known.)	4,47,256	(Not known.)
Cutch and Gambier ...	13,146	10,268	25,28,394	246
Myrabolams	21,798	35,297	29,93,647	85
Teak	55,043	50,076	55,05,155	110
Total in 1885-86	...	...	1,71,18,715	...
„ 1884-85	...	...	1,67,70,855	...
Increase in 1885-86	...	...	3,47,860	...

APPEN
STATE

Summary of the Revenue and Expenditure of the Forest

Budget Heads.	Bengal Presidency (British Territories).									
	Imperial.	Bengal.	North-Western Provinces and Oudh.	Punjab.	Central Provinces.	Burma.	Assam.	Coorg.	Ajmere.	Baluchistan.
REVENUE.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
I.—Timber and other produce removed from the forests by Government agency.	...	72,754	8,14,389	4,55,745	1,33,925	16,53,780	596	61,936	3,009	2,918
II.—Timber and other produce removed from the forests by consumers or purchasers.	...	4,92,149	6,03,651	3,41,774	8,69,331	1,94,976	1,79,227	24,381	5,923	11,303
III.—Drift and waif wood and confiscated forest produce.	...	3,486	16,580	29,575	3,676	1,15,431	1,317	48	...	...
IV.—Revenue from forests not managed by Government.	...	226	9,517	3,495	10,360	25,106	10,271	...	...	429
V.—Miscellaneous ...	...	28,817	17,358	19,830	19,601	34,566	5,246	3,021	766	312
Total Revenue ..	14,708	5,97,432	14,61,495	8,50,419	10,36,893 +1= 10,36,894	20,23,859	1,96,657 −1= 1,96,656	89,386	9,698 −1= 9,697	14,962
EXPENDITURE.										
A.—Conservancy and Works.										
I.—Timber and other produce removed from the forests by Government agency.	...	46,155	4,35,898	2,28,406	30,239	6,84,252	1,538	17,711	1,200	2,233
II.—Timber and other produce removed from the forests by consumers or purchasers.	...	31,421	43,851	1,723	1,75,430	7,495	6,596	...	77	293
III.—Drift and waif wood and confiscated forest produce.	...	654	4,832	8,297	..	69,055	63	...	...	...
IV.—Revenue from forests not managed by Government.	...	...	1,648	...		7,472	...	...	...	...
V.—Rent of leased forests, and payments to shareholders in forests managed by Government.	...	...	15,453	40,487	4,251	..	...	...	...	...
VI.—Live-stock, stores, tools and plant.	...	10,597	19,858	12,320	7,027	23,878	11,297	889	−76	90
VII.—Communications and buildings.	..	22,725	80,249	7,678	4,174	13,699	28,350	1,901	333	76
VIII.—Demarcation, improvement, and extension of forests.	...	36,176	67,437	64,870	34,142	59,899	39,502	12,990	2,468	2,052
IX.—Miscellaneous ...	...	3,304	8,615	3,783	4,141	9,252	5,139	452	56	10
Total Conservancy and Works	...	1,51,032	6,77,841	3,67,564	2,59,404	8,75,002	92,485	33,943	4,210	4,754
B.—Establishments.										
I.—Salaries ...	...	1,78,666	2,47,975	2,49,362	1,57,790	2,34,707	95,879	25,211	10,202	8,693
II.—Travelling allowances...	...	30,895	32,758	40,644	14,753	33,649	18,178	5,563	1,472	2,137
III.—Contingencies ..	..	9,806	15,945	17,913	13,455	7,594	4,952	973	585	214
Total Establishments ...	...	2,19,367	2,96,678	3,07,919	1,86,028	2,75,950	1,19,009	31,747	12,259	11,044
Grand Total of Expenditure.	88,245	3,70,399	9,74,519	6,75,483	4,45,432	11,50,952	2,11,494	65,690	16,469	15,798 +1= 15,799
SURPLUS ...	...	2,27,033	4,86,976	1,74,936	5,91,462	8,72,907	...	23,696	...	...
DEFICIT ...	73,537	...	...	...	...	...	14,838	...	6,772	837

DICES.

MENT I.

Department in India for the year 1885-86.

Andamans.	Forest School.	Forest Surveys (Imperial).	Total Bengal Presidency (British Territories).	Madras.	Bombay.	Total British Provinces.	Berar.	Forest Surveys (Berar).	Grand Total.	Budget Heads.
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	REVENUE.
...	...	...	31,99,052	3,51,415	21,42,296	56,92,763	...	...	56,92,763	I.—Timber and other produce removed from the forests by Government agency.
...	...	...	27,22,715	8,07,805	11,06,648	46,37,168	3,14,143	...	49,51,311	II.—Timber and other produce removed from the forests by consumers or purchasers.
...	...	...	1,70,113	15,180	10,566	1,95,859	1,642	...	1,97,501	III.—Drift and waif wood and confiscated forest produce.
...	...	...	59,404	...	47,396	1,06,800	...	...	1,06,800	IV.—Revenue from forests not managed by Government.
...	273	202	1,29,992	24,200	59,378	2,13,570	4,362	631	2,18,463	V.—Miscellaneous.
23,944	273	202	63,19,927	11,98,600 +50= 11,98,650	33,66,284 +2 = 33,66,286	1,08,84,863	3,20,047 −196= 3,19,851	631	1,12,05,345	Total Revenue.
										EXPENDITURE.
										A.—Conservancy and Works.
...	...	...	14,47,632	1,29,569	7,80,838	23,58,039	...	...	23,58,039	I.—Timber and other produce removed from the forests by Government agency.
...	...	...	2,66,886	64,338	29,504	3,60,728	12,794	...	3,73,522	II.—Timber and other produce removed from the forests by consumers or purchasers.
...	...	...	82,901	2,118	424	85,443	...	...	85,443	III.—Drift and waif wood and confiscated forest produce.
...	...	...	9,120	241	4,935	14,296	...	...	14,296	IV.—Revenue from forests not managed by Government.
...	...	...	60,191	14,896	43,785	1,18,872	17,120	...	1,35,992	V.—Rent of leased forests, and payments to shareholders in forests managed by Government.
...	2,324	1,100	89,456	26,889	8,238	1,24,583	6,797	2,632	1,34,012	VI.—Live-stock, stores, tools and plant.
...	...	...	1,59,185	32,759	8,323	2,00,267	12,628	597	2,13,492	VII.—Communications and buildings.
...	...	3,085	3,22,621	1,40,494	1,01,714	5,64,829	7,739	6,463	5,79,031	VIII.—Demarcation, improvement, and extension of forests.
...	2,615	340	37,713	11,632	5,292	54,637	6,108	...	60,745	IX.—Miscellaneous.
...	4,939	4,531	24,75,705	4,22,936	9,83,053	38,81,694	63,186	9,692	39,54,572	Total Conservancy and Works.
										B.—Establishments.
...	16,248	11,265	12,35,998	3,97,739	6,58,121	22,91,858	79,088	24,251	23,95,197	I.—Salaries.
...	1,379	2,515	1,83,973	91,674	1,07,234	3,82,881	11,838	7,160	4,01,879	II.—Travelling allowances.
...	1,673	869	73,979	24,082	40,476	1,38,537	4,923	1,837	1,45,297	III.—Contingencies.
...	19,300	14,649	14,93,950	5,13,495	8,05,831	28,13,276	95,849	33,248	29,42,373	Total Establishments.
37,085	24,239	19,180	40,94,936	9,36,431 +1,541 = 9,37,972	17,88,884 +50,577= 18,39,461	68,72,369	1,59,035 +207= 1,59,242	42,940	70,74,551	Grand Total of Expenditure.
...	...	...	22,24,991	2,60,678	15,26,825	40,12,494	1,60,609	...	41,30,794	SURPLUS.
13,091	23,966	18,978	...	...	...	...	...	42,309	...	DEFICIT.

STATEMENT II.*

Financial Results of Forest Administration for the year 1885-86.

Province	Timber and other produce removed from the Forests by Government Agency.			Other Revenue.			Formation, protection, and improvement of Forests
	Receipts	Charges	Surplus or Deficit	Receipts	Charges	Surplus or Deficit	Charges
	Rs	Rs.	Rs	Rs	Rs	Rs.	Rs
Bengal	74,308	67,286	7,022	5,23,124	1,30,161	3,92,963	1,72,952
N.-W Provinces and Oudh ...	8,14,559	4,95,513	3,19,046	6,46,936	2,05,992	4,40,944	2,73,014
Punjab	4,85,320	3,85,991	99,329	3,65,099	1,11,225	2,53,874	1,78,267
Central Provinces	1,35,371	38,045	97,326	9,01,522	2,61,749	6,39,773	1,45,639
Burma ...	16,76,439	8,58,223	8,18,216	2,97,420	1,45,327	1,52,093	1,47,403
Assam	1,912	1,602	310	1,94,745	74,062	1,20,683	1,35,880
Coorg	61,936	29,599	32,337	27,450	5,981	21,469	30,110
Ajmere ...	3,009	1,200	1,809	6,688	4,981	1,707	10,288
Baluchistan	2,018	2,852	66	12,044	5,829	6,215	7,117
Andamans ...	60,258	13,907	46,351	3,765	240	3,525	800
Total ...	33,16,030	18,94,218	14,21,812	29,78,793	9,45,547	20,33,246	11,01,420
Berar	...	...	...	3,20,047	1,13,006	2,07,041	46,029
Total Bengal Presidency ...	33,16,030	18,94,218	14,21,812	32,98,840	10,58,553	22,40,287	11,47,449
Madras	3,52,426	2,96,414	56,012	8,46,174	3,51,024	4,95,150	2,88,998
Bombay	17,30,785	9,87,132	7,43,653	10,43,994	1,91,705	8,52,289	5,38,071
Grant Total ...	53,99,241	31,77,764	22,21,477	51,89,008	16,01,282	35,87,726	19,74,513

* The figures in this Statement are taken from Form No. 62 appended to the Annual Forest Reports.

STATEMENT III.*

Revenue, Expenditure, and Surplus of the Forest Department throughout India during the 22 years from 1864-65 to 1885-86.

REVENUE.

Provinces.	1864-65	1865-66.	1866-67.	1867-68.	1868-69.	1869-70.	1870-71	1871-72.	1872-73	1873-74.	1874-75.	1875-76.	1876-77	1877-78	1878-79.	1879-80	1880-81	1881-82	1882-83.	1883-84.	1884-85.	1885-86
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs	Rs.	Rs	Rs.	Rs	Rs	Rs.	Rs.	Rs.	Rs	Rs.	Rs.	Rs.	Rs	Rs.	Rs.
Imperial†	421	30,959	752	543	1,159	1,436	3,107	2,334	2,771	1,225	1,144	1,465	2,490	1,36,772	16,716	17,214	18,687	27,407	30,732	32,907	26,574	14,708
Bengal	19,760	38,658	45,590	56,039	70,715	2,44,657	1,03,249	1,44,719	1,49,852	1,79,356	1,85,932	1,98,274	2,22,431	4,26,228	4,16,027	4,49,524	5,61,340	6,33,734	6,93,959	6,94,334	5,71,152	5,97,432
North-Western Provinces and Oudh ...	7,23,440	7,31,382	7,79,201	5,84,503	7,85,210	8,32,945	4,24,257	11,70,900	19,39,115	19,32,677	13,63,358	12,64,356	11,50,671	12,03,108	11,26,755	10,39,966	9,42,228	10,66,094	10,13,403	16,11,383	15,72,319	14,61,495
Punjab	5,27,081	3,50,680	3,96,050	2,80,510	3,44,882	3,94,129	9,47,236	7,10,216	6,52,995	7,32,539	8,34,874	9,09,831	5,98,754	6,93,711	5,00,619	6,49,819	6,71,678	6,88,308	7,66,709	9,10,177	7,49,352	8,50,419
Central Provinces...	68,760	1,34,042	2,37,472	3,49,490	3,50,536	4,16,020	6,58,120	5,57,128	4,81,673	5,68,367	6,60,938	7,26,176	6,61,326	6,83,910	8,52,862	10,06,724	8,50,139	11,72,984	9,77,647	9,94,769	10,27,202	10,36,894
Burma	9,34,070	8,98,485	4,24,774	6,46,812	8,17,599	9,84,774	8,18,124	7,72,400	8,27,569	10,69,621	10,74,902	17,79,020	15,51,408	16,03,082	11,37,562	11,80,190	15,16,613	22,31,904	25,03,896	25,09,275	16,70,982	20,23,859
Assam	...	...	.	...		...	.	...	...	...	65 949	61,870	81,568	1,34,326	1,61,779	1,64,335	1,68,997	1,66,054	2,48,605	2,11,445	1,80,414	1,96,656
Coorg	57,488	1,01,157	32,508	79,062	98,496	1,08,135	72,144	92,466	84,425	1,10,284	58,015	1,07,460	75,927	1,01,015	52,020	1,01,786	87,857	1,00,364	1,38,022	87,822	1,13,233	89,356
Ajmere	...	...	...	...	.	...			24	304	202	410	905	3,002	1,241	1,861	1,124	4,065	7,126	8,198	10,456	9,697
Forest Surveys (Imperial)	...	...	. .		. .	...		...		...	..	21	...	...	63	38	272	...	348	36	234	202
Forest School	...	...	...	...		.	...	. .		...	.	...	.	...	...	...	...	...	...	...	73	273
Andamans	2,808	2,515	3,495	6,070	5,071	3,036	7,373	5,890	6,962	4,184	5,516	5,363	4,679	1,301	5,564	2,437	27,734	48,407	70,858	24,762	22,213	23,944
Total ...	23,33,828	22,87,878	19,19,842	20,03,049	24,73,668	29,85,132	30,33,610	34,56,043	41,45,286	45,97,567	42,50,730	50,54,246	43,50,129	49,76,455	42,71,208	46,13,894	48,46,869	61,39,121	64,51,305	70,85,108	9,44,204	63,04,966
Madras	4,49,770	4,76,674	4,48,110	5,81,342	5,29,185	6,97,699	5,33,412	5,76,261	5,95,188	6,13,653	5,14,401	6,77,873	5,92,573	5,50,310	6,06,788	6,26,168	7,36,880	8,06,908	9,06,442	9,53,704	11,66,916	11,98,650
Bombay	10,81,907	10,07,611	8,21,268	8,84,244	12,13,483	12,35,257	11,68,401	11,50,215	11,46,405	11,88,089	12,24,051	12,48,672	12,26,658	12,61,528	11,81,894	15,24,712	15,22,807	18,28,117	20,90,353	25,03,100	27,74,842	33,66,286
Total (British India) ...	38,65,505	37,72,163	31,89,220	34,68,635	42,16,336	49,18,088	47,35,423	51,82,519	58,86,879	63,99,309	59,89,182	69,90,791	61,70,360	67,88,293	60,59,890	67,64,774	71,06,556	87,74,146	94,48,100	1,05,42,912	48,85,962	[illegible]
Berar	2,368	15,106	43,574	53,440	84,557	1,80,397	1,77,329	1,55,543	2,56,563	2,63,256	2,60,674	2,32,792	2,53,072	2,79,236	2,88,704	3,07,500	2,66,556	2,33,511	2,92,014	3,06,218	2,97,185	3,19,851
Forest Surveys (Berar) ...	...	...	...	...	...	...	...	..	...	..	...	. .	...	...	...	...	...	..	...	..	894	631
Baluchistan	...	...	.	...	..	...	. .	..	...	...	...	...	...	...	...	...	14,376	18,616	5,039	4,752	6,089	14,962
Grand Total ...	38,67,973	37,87,269	32,32,794	35,22,075	43,00,893	50,98,485	49,12,752	53,38,062	61,43,442	66,62,565	62,49,856	72,13,573	64,22,432	70,67,529	63,48,594	70,72,274	73,87,484	90,26,273	97,45,153	1,06,54,082	1,01,80,176	[illegible]

* The figures in this statement have been revised by the Comptroller and Auditor General.

† Includes certain Home Receipts, and undistributable and petty local items.

STATEMENT III—*continued.*

EXPENDITURE.

Provinces.	1864-65.	1865-66.	1866-67.	1867-68.	1868-69.	1869-70.	1870-71.	1871-72.	1872-73.	1873-74.	1874-75.	1875-76.	1876-77.	1877-78.	1878-79.	1879-80.	1880-81.	1881-82.	1882-83.	1883-84.	1884-85.	1885-86.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Imperial*	44,207	16,981	32,078	38,924	33,007	54,106	51,423	66,530	67,150	79,216	81,210	48,239	44,004	98,099	63,956	73,810	65,291	77,635	87,268	98,266	96,306	88,245
Bengal	3,971	45,292	1,05,215	1,67,495	1,15,933	1,17,899	86,479	1,10,989	1,00,777	1,39,274	1,01,361	1,42,676	2,14,497	2,62,913	3,38,675	2,75,748	3,35,381	3,94,612	3,82,183	3,87,813	4,11,915	3,70,399
North-Western Provinces and Oudh ...	5,03,580	3,31,261	4,10,205	3,89,806	5,01,021	5,29,422	8,10,073	11,10,071	11,74,666	11,90,794	10,61,302	7,36,979	8,61,362	7,28,926	8,09,977	7,16,594	6,79,574	9,16,212	8,39,025	10,41,885	10,20,101	9,74,519
Punjab	5,78,616	2,71,369	2,63,373	2,88,029	3,17,634	7,41,432	11,95,655	7,07,619	8,90,369	6,11,556	6,58,983	5,56,911	5,25,659	5,20,631	5,23,554	4,80,676	4,95,368	5,16,269	5,60,750	6,53,146	5,58,070	6,75,483
Central Provinces...	1,55,270	1,08,597	1,49,408	2,18,434	3,19,126	4,74,930	3,17,928	2,31,633	2,50,578	2,85,939	2,94,449	3,73,327	2,90,295	3,22,034	3,93,758	5,22,574	4,95,512	4,97,013	4,12,247	4,36,058	4,95,821	4,45,432
Burma	2,62,030	3,11,941	2,86,993	3,30,526	4,24,333	4,22,106	4,00,851	3,79,217	3,36,759	4,75,304	6,63,547	8,15,659	10,05,554	8,58,231	7,18,402	7,53,490	7,12,568	11,50,224	12,28,955	12,17,824	12,12,233	11,50,952
Assam	...	...	...	...	...	...	...	...	...	...	60,367	63,397	90,520	1,01,153	1,26,028	1,32,829	1,42,725	1,65,361	1,71,823	1,99,562	1,97,699	2,11,494
Coorg	3,407	12,996	8,650	13,722	17,848	33,064	24,747	70,178	29,478	45,952	37,999	40,168	33,692	36,268	34,829	55,165	56,487	59,796	64,770	75,023	76,951	65,690
Ajmere	...	...	...	...	...	...	...	...	13,054	17,932	15,281	27,346	22,460	14,926	13,445	13,750	12,423	13,954	11,284	14,574	16,316	16,469
Forest Surveys (Imperial)	...	...	...	...	...	...	...	...	...	59,556	78,090	58,930	58,929	60,165	60,325	46,878	40,335	42,489	41,595	30,940	19,823	19,180
Forest School	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	22,568	24,239
Andamans	...	...	...	...	..	150	...	1,651	1,896	...	...	...	1,307	1,096	...	7,177	2,160	2,306	1,840	12,161	22,760	37,035
Total ...	15,51,981	10,98,437	12,55,922	14,46,936	17,28,902	23,73,109	28,87,156	26,79,888	28,64,728	29,05,523	30,52,589	28,63,632	31,48,279	30,04,442	30,82,949	30,72,691	30,37,824	38,35,871	38,01,740	41,67,252	41,50,563	40,79,137
Madras	2,64,780	3,51,392	3,42,827	4,02,674	4,01,617	4,21,316	4,47,267	3,91,921	5,48,746	4,74,920	5,95,941	5,92,039	6,35,360	5,65,624	4,95,914	5,48,527	5,19,270	6,03,419	6,45,352	7,86,733	8,96,505	9,37,972
Bombay	3,72,187	7,77,139	6,51,641	5,55,039	6,31,226	5,56,015	6,39,759	5,97,831	7,25,031	7,21,594	8,36,675	7,94,141	8,38,979	8,77,716	10,04,923	10,76,989	11,67,347	11,69,181	12,78,770	15,64,172	17,78,723	18,39,461
Total (British India) ...	21,88,948	22,26,968	22,50,390	24,04,649	27,61,745	33,50,440	39,74,182	36,67,640	41,38,505	41,02,037	44,85,205	42,49,812	46,22,818	44,47,782	45,83,786	46,98,207	47,24,441	56,08,471	57,25,862	65,18,157	68,25,791	68,56,570
Berar	478	8,991	13,718	18,669	34,105	81,569	81,972	1,00,829	83,631	86,350	91,389	91,449	94,652	1,09,968	1,07,350	1,10,506	1,28,968	1,52,985	1,55,054	1,56,779	1,52,649	1,89,242
Forest Surveys (Berar)	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	15,043	34,804	42,940
Baluchistan	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	16,416	17,682	11,962	16,911	13,266	15,799
Grand Total ...	21,89,426	22,35,959	22,64,108	24,23,318	27,95,850	34,32,009	40,56,154	37,68,469	42,22,136	41,88,387	45,76,594	43,41,311	47,17,470	45,57,750	46,91,136	48,08,713	48,69,825	57,79,138	58,92,878	67,06,890	70,26,510	70,74,551

* Includes pay of Inspector-General of Forests, certain Home Charges, and undistributable and petty local items.